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THE PUBLIC SERVICES

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THE STRUGGLE FOR THE FREEDOM OF THE PRESS 1819-1832

BARON D'HOLBACH: A PRELUDE TO THE FRENCH REVOLUTION

THE SOCIAL SERVICES: A HISTORICAL SURVEY

THE PUBLIC SERVICES

A Historical Survey

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PREFACE

THIS historical survey of the Public Services has been called for as a companion to one that I wrote on the Social Services during the recent depression.

Like its precursor, it attempts to interpret a set of important British civil institutions in terms of changing social function as well as of constitutional form.

It springs too from a conviction that the historical approach has something to contribute to the right understanding of present tendencies.

And it aims at doing something, however little, to focus more attention on two of the great works of peace of the modern world. While the Social Services strive after social justice and spend themselves in a struggle to lessen the maldistribution of the artificial necessities of modern life, the Public Services try to pay their way by bringing their facilities to the doors of all classes alike. Without the organization of Public and Social Services, our civilized way of living would be impossible. And together they present two of the outstanding characteristics of the semi-planned Service State of the twentieth century, which is not content with making laws that say to its subjects 'thou shalt' and 'thou shalt not,' but enters into the everyday life of its people, does many a job itself, or, at the very least, deliberately and consciously controls the doing of it.

W.H.W.

1938.

CHAPTER I

THE GENESIS OF THE PUBLIC SERVICES

WHAT makes the public services public is the general feeling that we cannot live our private lives without them if we are to make the most of our material civilization. We neither eat them nor wear them, neither enjoy them nor destroy them ; yet without them we could not get such food and clothing, entertainments and defences, as we desire. Both as consumers and as producers, we all stand in need of them.

They change from generation to generation, rather than from season to season. Their progress comes from the advance of science, rather than from freaks of fashion or the transmutation of taste. They offer as good scope for the professional skill of the engineer as for the market-judging instinct of the business man. They are institutions rather than firms.

In the public services more capital is tied up in extensive plant, and more laid out in employing a colossal staff, than in any other form of economic activity. The very difficulty of organizing such vast undertakings has tended to restrict competition between them. We may prefer one kind of transport to another, or one method of lighting to another ; but here our freedom of choice is nine times out of ten at an end. We choose to avail ourselves of a certain service : we seldom have much choice among the undertakings that are available to render us that service. There are only four railway companies in the whole island of Great Britain, and only one gas undertaking in your road or in mine.

In this very restriction of our choice, there is an inevitable limitation on our liberty. One hundred years ago the overwhelming majority of our great-grandparents could not help

themselves of what sovereign they were born the subjects. To-day we are subject not only to the political state, but also to these powerful, inescapable, and statelike economic undertakings, with their vast armies of officials, their piled-up public debts, their territorial spheres of influence, and their border bickerings.

The history of these institutions is not only a chronicle of technical progress : it is a story also of social adaptation, constitutional organization, and legal formulation. It is then one of the most important mirrors in which man can find a reflexion of his own man-made evolution.

This history, like all other true history, is at bottom a kind of geology. Human society is like the crust of the earth : its institutions have been built up stratum upon stratum in the course of the ages. As a near kinsman of the geologist, the historian sees the past on the surface of the present, and endeavours to understand and interpret the present in the light of the past.

Each age has tended to produce its own characteristic and distinctive forms of social life. In every age alike the prevailing form of public-service organization has found its own idolaters, soon to be followed by its own corresponding brand of iconoclast. Moral progress there has been none, but a ceaseless struggle to strike some ever-new balance between the public and the private interest.

In few departments of life does history consist so clearly of the adaptation of institutions to new engineering possibilities. The technique of administration has had to advance to keep pace with the progress of engineering technique. The mind of man has had to wrestle continually with material problems of its own making. And those who live in the heaven of academic subtleties may discuss to their heart's content whether this is a materialist or an idealist interpretation of history.

The first primitive ancestors of the public services belonged

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to times long past. It is only within the most recent period of social evolution that their descendants have covered the earth, and especially the western hemisphere. This growth would seem to fall mainly into four ages, each of which has left its mark on our existing society, and each of which therefore deserves our attention.

I. THE CROWN IN COMMISSION

For one thousand years the power of the state has been more continuously effective in England than in any other country of the western world. Naturally so. England's smallness and its island-nature made it a physical unity without waiting for eighteenth-century roads, nineteenth-century railways, or twentieth-century aircraft. The alternating aggression of islanders and continentals forced the king of England into partnership with his subjects, until they thought of themselves as head and members of an indissoluble and well-knit commonwealth. And when at last the crown that the Stuarts were not wise enough to wear was put into commission, the landed magnates who ruled, and the city merchants who financed them, inherited a power of influence and patronage as great as that of any continental prince, and more secure and effective, because their thoughts and interests found an echo in every county, town, and parish of the country, and because they depended only on themselves and on men like themselves for the execution of their policy.

In such an England almost every public service, with its manifold opportunities for exercising authority and levying charges, was either a jealously guarded legal privilege or an irksome legal duty. If roads built by Roman power and bridges bequeathed by catholic charity were not to be quarried away, later generations had to be bound by law to respect them. And as the demand for each new service arose, the privilege of meeting it had to be expressly conceded. In

monarchical times this meant issuing an expensive letter-patent under the king's privy seal, or a more costly charter under the great seal. And after the civil war it meant an exorbitantly dear private act of parliament, to say nothing of the continued need for a charter of incorporation if a body of privileged persons wished to buy a secure standing in the courts.

To direct much and do little was the essence of the aristocratic 'mercantile state' of the eighteenth century. It enlisted the merchant as the agent of the state to their common advantage. It put its work out to be done. And nowhere more so than in a Britain where the fear of party patronage made men doubly fearful of a strong executive.

The royal mail, with its post-horses that plied along the king's highway, was almost alone in being truly royal. And it is a surviving witness to the ambitions of the 'new monarchy' of the Tudors and the Stuarts. Yet even this service had to be made to pay its way, its servants were allowed and encouraged to turn its operations to their personal profit, and not a little of its work was farmed out to contractors.

An aristocratic and mercantile nation preferred in the eighteenth century to organize its more local public services in no less than five other ways, some of them more ancient, and many of them more typically English.

Many services, of the more primitive, more necessary, and less lucrative sort, were left to communities of medieval type or origin. The town was allowed to hold its weekly market and its yearly fair. The county was compelled to mend its bridges, and the parish its highway. The sea-port towns or their guilds remained responsible for conserving the navigation of their tideways. And Trinity House was a local guild which got permission to set up beacons well outside its local limits. In this, as in all other fields, mercantilism kept the local machinery of medieval life intact, although it adapted it now to the fostering of national trade, wealth and power.

Almost as old were the board of commissioners. Nominated at first by the crown, they acted as a sort of bench of *ad hoc* magistrates, making sure that nobody's duties were neglected, nobody's rights injured, and that local drainage or navigation work was duly done. Little by little they took to levying a rate or a due and placing the work that needed doing. New statutory commissions were set up by parliament for the improvement of local streets and bridges and harbours. And after the English revolution their membership also changed, so that, instead of depending on a royal commission, they became entitled by statute to a seat on the board, often by virtue of their station in life. Many held office *ex officio*; others might be named in the original act or be subsequently co-opted; and, in the towns, a few were elected on a property qualification. But however they got there, boards of commissioners were now permanent and representative institutions—representative of the classes that counted for most in George III's England. Every Thames-side parson and big landed proprietor, every fellow of Eton and every head of an Oxford college, to the number of six hundred and more all told, became *ipso facto* a conservator of navigation on the upper Thames, provided only that he swore the necessary oaths of office.

Still more characteristic of eighteenth-century England was the non-profit-making trust. Every other squire was trustee for the estate of his wife or some other relative; every other nonconformist tradesman was a trustee of a dissenters' meeting-house; fashionable clubs and charity schools, the British Museum and the local almshouse and hospital were all alike held by trustees under a deed of settlement. Nothing then was more natural than to set up a temporary statutory trust, by local act of parliament, when some public service was called for from which no private undertaker could venture to hope for a profit. Such were the turnpike trusts, by which the squires and tradesmen of the English countryside set up

to do for themselves what Louis XV did for France. The trustees served, when they did serve, gratuitously. The user paid toll, not as a piece of extortion, but to meet the cost of the service rendered in providing him with a more passable road. When any large capital outlay was called for, it was met by mortgaging the tolls, much as a landowner mortgaged his ground rents; for that was an age of credit rather than of capital. The taking of the tolls was usually farmed out to a contractor. It was no part of the plan that the trust's work was never finished, and that the trust had to be automatically renewed by parliament whenever it was due to expire.

When some completely new project was to be undertaken, as a speculative venture, the most economical device was to concede a lease to some 'undertaker': at an agreed rent, he farmed from the crown the right to drain fens, make rivers navigable, build waterworks on London Bridge, or organize cross-country posts, much as his contemporary in France farmed the right to collect the indirect taxes. Or he contracted with boards of commissioners or trustees to run their navigations or turnpikes. He has left behind him the term 'public undertaking' as the traditional though confusing English term for any venture by which a public service may be provided.

But he was usually handicapped by lack of funds. Whenever more capital and more credit were needed than he and his partners could command, his place might well have been taken by a chartered joint-stock company. This essentially English device, by which the trade with Muscovy and the Levant, the East Indies and the South Seas had in turn been opened up by London merchants in the name of the English queen, was now turned to domestic uses. It gave London fire-insurance companies after the great fire; it brought water from Hertfordshire to London by the New River; it gave the merchant bankers of the city a focal point for their credit operations in the Bank of England. But the competition of yet other internal companies for capital was prematurely

extinguished when the South Sea directors got the 'bubble act' passed in 1720; before a joint-stock company could get its charter of incorporation, it now needed a private act of parliament. And the prejudice against joint-stock enterprise that was aroused by the bursting of the bubble survived into the writings of Adam Smith himself. The expensive and unpopular statutory company offered no advantage over the more fashionable statutory trust or the statutory commission, until canal promoters discovered from the 1760's onwards that this was the easiest method of raising capital of such unprecedented magnitude as they required. Not till then did shareholding begin to take the place of land-ownership and the trader's stock as the typical form of property and therefore the normal English method of financing large-scale public undertakings.

II. SPECULATIVE BUSINESS

In the nineteenth century as in the eighteenth, the provision of all public services other than postal communications was left by the government to local initiative. But the most despised and neglected of eighteenth-century forms of organization became the most loved and most feared of the nineteenth century. This was the statutory company.

The reason for its rise is clear. There was no other means of raising so large a capital so easily. £50,000,000 must have gone into canals, £1,000,000,000 into railways, £100,000,000 into gas companies, and £50,000,000 into water companies before the century was out. Such services as these were indispensable if inland products were to find their way more cheaply to the ports, the ports improve their access to the hinterland, cotton mills be lighted for night work, and the expanding towns be supplied with water. And in every part of the country the men who desired them most got permission from parliament to provide these services.

The state, it is true, might in the abstract have raised even larger sums at lower rates of interest. But the needs that were being met were in the first instance local and not national : it was not until the middle of the century that local railway companies stretched out their arms from coast to coast and held the whole nation in their grasp. An aristocratic executive government, moreover, was so closely identified with partisan and personal patronage, that the commercial classes were convinced they would be better served if they served themselves. They alone had a supply of suitable talent and experience. And the only function which they were sure belonged to government was national defence.

What enabled the company promoters to raise such unprecedented sums and carry out engineering feats unknown since Roman days was the prosperity and confidence of the British commercial classes—often an over-confidence bred of inadequate information and experience. It was easy not to see that public undertakings need plant enough to carry peak-loads, plant which may lie idle for much of the time, plant which will gradually become obsolete and have to be replaced. It was convenient to forget that working costs might rise. It was simple to overlook the possibility of competition by newer services. Some engineers in the early days even forgot that railways might need railway-stations. Subscribers hoped for higher profits than any that were to be got by buying consols. It was more as a speculation than as an investment that they took out shares, while canal manias and railway manias succeeded one another wave on wave in a rising tide of optimism. Investors had not a little of the pioneering willingness to take big risks and face losses. If their money earned but little or no interest, it was none the less a saving of both time and money to travel by train and work by gas-light. And if the worst should happen, their liability was safely limited. Ownership of all realizable assets, it was true, belonged collectively to the company, and

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effective control was normally concentrated in the hands of a few directors ; but shareholders thought of themselves and were commonly spoken of as the proprietors, they trusted that the directors of an expanding company would normally meet their reasonable desires in order to stand a good chance of raising further share-capital from the same subscribers, and they hoped that in the last resort they might be able to exercise their latent legal rights and regain control of the company.

While things got done by themselves, the government asked for nothing better than to be allowed to look on in gentlemanly ease. Peel summed up the prevailing attitude excellently, when in 1828 he told a royal commission on the salubrity of Thames water that its business was to ascertain scientific facts and not to draft engineering plans. ‘Certainly,’ he laid it down, an improved supply ‘ought not to be provided by the government, nor the expense borne by the public. If so, the supply would certainly never be procured at so cheap a rate as it had hitherto been at the charge of individual projectors. The present immense supply of water was the fruit of private speculation. . . . Why then was it to be supposed, if the public were dissatisfied with its supply, that another company would not arise making a purer supply the basis of its prospectus? . . . If then the enterprise is not one in which government can with consistency interfere, certainly it ought not to interfere with the preliminary appointment of engineers, the choice of whom ought to rest with the companies who are to trust them with the administration and employment of their capital. The project of the building of Waterloo Bridge and the Thames Tunnel, great as they were in the outlay, originated and were carried out by private speculators. Another important consideration is that the interference of government is likely to be very unpopular, as an interference with private property.’*

Parliament was not so well placed as the government for

* House of Commons, 19 May 1828.

disclaiming all responsibility. The principal end and purpose of parliament was, as Locke had long ago explained, to be the sole and sovereign judge of the rights of property. Now a joint-stock undertaking touched property at three points. The investor must be saved from the arbitrary watering of capital. The user must be protected against the tyrannical extortion of exorbitant tolls. And the landowner, who must needs be compulsorily expropriated, must be secured against all needless loss to his estate.

Some tribunal was therefore needed to adjust these three interests. None commanded so much confidence among investors, users, and landowners as parliament. No more learned tribunal had half the average back-bencher's horse sense. No lesser tribunal possessed the same finality. The situation was different where the investor was asked for less capital, where the user was less exposed to the risk of monopoly, and above all where compulsory powers of land-purchase were superfluous: for undertakings such as these, the need for parliamentary authorization could be and was dispensed with; the right freely to incorporate a trading-company by mere registration was one of the most characteristic achievements of early-Victorian liberalism; and it met the needs of promoters of omnibus, insurance and banking companies. But in the case of most public services, greater powers were desired and therefore no similar liberty could be allowed. For these services the company remained a statutory one. The statutory company became a type distinct from the registered company. To obtain the necessary statutory authority, the cost and delay had to be faced that were inevitable when parliament sat only in the winter and spring and separate hearings before private-bill committees of both houses had to be prepared against, counsel retained, agents employed, witnesses travelled and lodged and fed, and parliamentary house fees paid. But the resulting act of parliament was envisaged as a binding contract which it would be highly

improper for parliament subsequently to over-ride by an arbitrary exercise of its undoubted sovereignty.

Private bills might be drafted with many differences both of detail and of principle. Parliamentary private-bill committees varied in membership and outlook. A government department might report for the committee's guidance on the purely technical aspects of a scheme; but each committee remained the sole judge of whether or not a scheme ought to be approved. Uniformity was unattainable; but there came a time when the best established current custom became crystallized in a series of public and general acts of parliament. Canal legislation never reached this stage. But a select committee on railway legislation threw out this suggestion in 1844, and Peel, the great consolidator of modern English law, passed a companies clauses act, a lands clauses act, and a railways clauses act next year, to be followed under a Whig government two years later by a waterworks clauses act and a gasworks clauses act. Here at last were certain statutory norms which every subsequent petition for a private bill might fairly be expected to embody. And propertied interests were less likely to be exposed to the injustice that arises from inequality of treatment.

To protect the investor, a statutory maximum was fixed for each company's share capital, which could not be exceeded without fresh legislation. When canal companies imitated turnpike trusts and tried to raise further capital by mortgaging their tolls and issuing what were now called debentures, parliament took to limiting the borrowing-power of statutory companies to one half of their share capital. But in thus allowing a stockholding rentier to enter into sleeping partnership with the shareholder without sharing his risks or his right to a vote, parliament was actually obliging the shareholder: in times of bad trade the merchant and the manufacturer preferred the company to raise loan capital rather than make fresh calls on the share capital they had promised.

To meet the user's interests, competition was usually relied upon. But this was not all. The user was also protected in two other ways. On the one hand maximum tolls and charges were invariably fixed, although the railways soon rendered theirs meaningless by providing cheaper services than parliament had previously thought likely. On the other hand, maximum dividends were also fixed for those undertakings that seemed most likely to enjoy local monopolies and reach their maximum charges: gasworks and waterworks were usually restricted to ten per cent. and a reserve fund by the 1840's, and six per cent. from the 1860's, although repeated attempts to restrict railway profits in the same way proved quite irrelevant through the inability of all but the first of them ever to distribute so handsome a dividend.

The most momentous and effective protection, however, was that which was accorded to the expropriated landowner, and, curiously enough, this was only partly embodied in any act of parliament. What the lands clauses act did was to consecrate a new method of valuing land. When a parish needed land or materials for amending the king's highway, the normal proceeding was for the county bench both to authorize the expropriation and also to assess the satisfaction due to the owner, with the help of a jury if it was land that was taken;* but when a statutory company wanted to buy land from an unwilling seller, each party appointed an arbitrator and the two arbitrators agreed on an umpire by whom compensation was awarded. Now, to be fair to the company, it became customary—for it was not enjoined by any statute—for the umpire to take the value of the land as its value to the seller, and not its value to the purchaser who was often in the position of wanting this particular land or none. The seller would thus be paid just about enough to enable him to get as much from some new investment as the land had previously

* Highways consolidation act 1835. Similarly Michael Angelo Taylor's metropolitan paving act 1817, and sewers act 1833.

been worth that was now taken from him. But in order to be doubly fair to the unwilling seller, it also became normal to add some ten per cent. in England and more in Scotland, as a solatium to an owner who was compulsorily dispossessed of property to which he was attached by family associations or sentimental ties; the potential value of the land was not infrequently taken into consideration; and the cost of re-investment was often allowed, although many years might elapse before an equivalent investment could be found and this item be finally settled.* The outlook that underlay such awards was clear. It had no use for the doctrine of *expropriation pour cause d'utilité publique* that was being inscribed in liberal continental constitutions. Nor did it think of the landowner as a feudal tenant who was being called upon to fulfil a public duty as the price he must pay for being left in enjoyment of the rest. It thought with Austin that property rights were absolute. And it saw only that property was being torn from its owner against his will by a company-promoter engaged in a profit-seeking speculative adventure.

The public company dwarfed all other methods of organizing public services: it did not drive them off the field. There was indeed no hard-and-fast line between the voluntary local enterprise that manifested itself in company promotion and that which manned the new urban local authorities. The one it is true hoped to make a direct profit; but the other also hoped to be the gainer, even if less directly. And in theory at least the directors of a public company and the members of a public authority were both equally elective, even though their election might seldom be contested. One of the chief sources of the strength of the elective institutions beloved of the liberal middle classes of one hundred years ago was, in fact, the equal applicability of the same principle to both economic and political organization. And this spiritual

* See e.g., London water commission 1900 (especially s. 55, citing Sir George Bruce); the joint select committee on metropolitan water 1902 (especially p. 23); and the land acquisition and valuation committee 1918.

approximation, this ideological identity, was even more marked on the *ad hoc* boards, with their property qualifications, than on the reformed town councils for which every ratepayer had a vote. Some municipal corporations such as Bristol served the commerce of their town by building docks. Others, such as Manchester, helped industry by supplying gas. All up and down the country local boards of health were building waterworks and disposing of refuse. And the payers of port dues at Liverpool and Birkenhead combined to experiment in a new form of elective *ad hoc* local authority, the Mersey docks and harbour board.

While these constructive local experiments, survivals and portents were attracting increasing attention, the statutory company was being criticized by philosophical radicals such as Edwin Chadwick, Rowland Hill and John Stuart Mill, on utilitarian grounds. From the very first the statutory company had failed to make the interests of the user paramount. And the more monopolistic it became, the more he was at its mercy for the carriage of his goods and his person and the supply of gas and water. Chadwick did much to foster the making of waterworks and sewage farms and urban streets by local authorities, and Hill did much to extend the ramifications of the state post office. But when they treated a royal commission on railways to their scheme of state-ownership in 1868, they had nothing more practical to suggest than that the state should then put the railways up to a Dutch auction, farming them out to whatever company would undertake to give the user the best service for the lowest price. Faced with the prospect of monopoly, they hoped against hope that it might thus be possible to preserve 'competition for the field, though not competition within the field.' Their point of view and the disillusionment brought by experience had been well summed up by John Stuart Mill, then at the height of his popularity as a political economist. 'Where competitors are so few, they always agree not to compete,' he wrote, in

words which even the House of Commons allowed to be read to it ; ‘ they may run a race of cheapness to ruin a new candidate, but as soon as he has established his footing they come to terms with him. When therefore business of real public importance can only be carried on advantageously upon so large a scale as to render the liberty of competition almost illusory, it is an unthrifty dispensation of the public resources that several costly sets of establishments should be kept up for the purpose of rendering to the public this one service. It is much better to treat it at once as a public function, and, if it be not such as the government itself can beneficially undertake, it would be made over entire to the company or association which will perform it on the best terms for the public. The question is not between free trade and a government monopoly : the case is one of those in which a practical monopoly is unavoidable ; and the possession of the monopoly by individuals is not freedom but slavery ; it delivers over the public to the mercy of those individuals.’*

III. DEMOCRATIC OWNERSHIP AND CONTROL

In late-Victorian and Edwardian Britain the wielders of political power were becoming steadily more democratic in outlook and less respectful of vested economic interests. The reform acts of 1867 and 1884 extended the suffrage first to Britain’s urban and then to her rural manhood. The local government act of 1888 subjected even county councils to the periodical gamble of election. Liberal caucuses and tory primrose leagues and independent labour parties carried party politics down from the West-end club to the lower-middle-class committee-room. Universal elementary education made newspaper-reading an everyday habit with men of every class. And a rising standard of living was making luxuries like gas

* J. S. Mill, *Principles of Political Economy* 1. ix., cited H. of C., 29 April 1851.

and water, trams and trains, into the conventional necessities of the common man and the humblest home. It was becoming clear that the users of these services were more numerous than their owners.

The sovereignty of the people was a doctrine implicitly though sometimes tacitly accepted alike by radicals and socialists, tory democrats and liberal unionists, Forster and Fawcett, Harcourt and Disraeli, Joseph Chamberlain and Walter Long, T. H. Green and the Webbs. The thousands of binding contracts into which parliament had entered with the statutory companies faded away into privileges which a higher morality might oblige the grantor to revise. When parliament conferred a privilege, parliament had a special right and duty to watch over the user's interests. An epoch-making change came over public opinion about 1870. Every new application for extended powers was thenceforward apt to be made an occasion for imposing new checks and limits. And considerable encouragement was given to public authorities themselves to embark on experiments with new inventions, especially electric lighting, electric transport and electric communications.

Of the older undertakings, national transport and local supply services attracted almost equal attention. To help the railway user hold his own in the sharpened competition with foreign rivals, a specialized tribunal was commissioned in 1873 to adjudicate on his complaints, and maximum charges were scaled down by 1894 to the level of those actually in force. To shield the resident in any locality from gas and water monopolies, dividend-limitation was proved by experience to be inadequate: 'all motive for economy is gone, and nothing is left to prevent extravagance and jobbery except public opinion and the character of the directors.*' A discretionary revision of charges by the treasury whenever

* Joint select committee on railway amalgamation, 1872, XIII. (364). p. xxxvi.

the maximum dividend was reached had previously been tried : it had failed through the unwillingness of the treasury to use its discretion. The important experiment of an automatic sliding-scale, by which dividends might rise as charges fell, was therefore tried out upon the gas companies from 1875 onwards. From 1877 a standing order of the House of Commons required the insertion of ' auction clauses ' in private bills for public undertakings : instead of offering new capital at par to existing shareholders, and allowing them thus to reap the benefit of a fat premium, the undertakings would in future have to invite subscriptions by public auction or tender, and carry the premium they received to their capital account. And when public purchase began to seem imminent in the 1880's, ' sinking-fund clauses ' were also added to the bills of London water companies : when one of them wished to increase its capital, it was obliged to issue only debentures, and the resultant saving of interest was to be used to buy-in its ordinary shares.

The extension of municipal trading was of more positive importance than the devising of these new ' checks and limits.' When horse-drawn tramways were sanctioned in the later 1860's, parliamentary opinion was tending towards the utilitarian standpoint of Mill, Hill and Chadwick : it assumed that the local authority would own the track, but would leave actual operation to a lessee for a term of years. When electric lighting came in in the early 1880's it went a step further and gave the municipality a right of purchase every so often after the lapse of an initial term of years. And in 1879 it became normal for municipal corporations to enter the money market and raise loans for these and other purposes on their own account.

These new legislative tendencies had a very important effect on the valuation of properties for municipal purchase. Every time an undertaking was purchased that did not come under such acts as these, the public authority could be compelled on

arbitration to pay to the trading company as much as the trading company itself would have had to pay to a dispossessed landowner under the lands clauses act procedure. It could be obliged to assure the expropriated shareholders an earning power equivalent to that of their shares ; and when dividends stood at ten per cent. this might well mean the payment of £320 for a £100 share. But if the undertaking had only a terminable lease of life under one of these new-style tramway or electricity acts, the public authority was then in the fortunate position of being allowed to purchase it at its then value : it would buy the land and plant at the comparatively low price they might fetch in the open market. It was less easy to over-value these visible and tangible material assets than to paint too rosy a picture of a shareholder's somewhat elusive contractual rights.

Shareholders and arbitrators were not alone in viewing the public services through rose-coloured spectacles. Too many a municipality hoped that it would be as lucky as the expropriated shareholders in winning the profits of monopoly—perhaps even luckier when it struck a good bargain by buying the plant on the cheap. The apostles of municipal socialism were the fanatics of ‘quasi-rent.’ The surplus would be used in relief of rates. And if extensions were required the municipality would be able to use its newly-won borrowing powers to raise capital more cheaply than any company could have done, even though it would also have to arrange a sinking fund. It was left to the prophets of woe to point out that costs might soon expand more rapidly than markets ; out-of-date plant would need replacing ; profits would shrink if the user were given a better service for his money and if labour were better paid for its service ; economies could not be effected at the expense of the ordinary shareholder's dividends ; and the municipal undertaking might well end by coming on the rates.

For the present, however, the tide of democratic ownership and control was running strong.

The post office fell into line with the municipalities, state socialism kept pace with municipal socialism. A tory government under Disraeli resolved on the purchase of the electric telegraphs : a liberal government under Gladstone carried out this decision. A unionist government under Balfour resolved on the purchase of the telephones : again a liberal government, under Asquith, carried this resolution into effect. The telegraphs, being the absolute property of their owners, were bought for the high price that was normal under the lands clauses act : the telephones, being held merely on licence for a term of years, were bought on comparatively moderate ' tramway terms.' And during the war, the liquor trade in the Carlisle district was nationalized, and a scheme of state forests embarked upon, in the assurance that both investments would prove remunerative in the long run, besides proving a source of strength in war time.

In all this process the weakest point was London ; and it was not for nothing that it was here that Fabian propaganda raged the strongest. London outside the city had no civic consciousness and no organ for evolving one until its rate-payers were allowed to elect a London county council in 1889. This did at least take over the trams ; but so far as the other public services were concerned it remained little more than a sewage-disposal and fire-fighting authority. It was only one authority among many in the metropolitan area. Geography was against it. And it was not helped by the political perversity that began to paint its majority a different party colour from that of the government of the day. Legislation initiated by the London county council therefore ran a good risk of opposition both by sister authorities and by the government. It was in vain that select committees reported vaguely, ' that it is expedient that the supply of water to the metropolis should be placed under the control of some Public Body, which

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should represent the interests and command the confidence of the water consumers.* No such body existed. An attempt might however be made to create one. Public ownership and control at London therefore took the form of purchase by boards set up *ad hoc* by public acts of parliament.

Such boards were to be elective and unpaid; but they were not to be elected by the ratepayers. The Metropolitan Water Board set up by a unionist majority in parliament in 1902 was to be elected by all the borough, district and county councils covered by its operations: it was thus an exceptionally big experiment in the indirectly-elected joint board. And the Port of London Authority set up by a liberal majority in 1908 was to be elected mainly by the users and payers of port dues: it was thus a new and enlarged version of the Mersey prototype of fifty years earlier. For such boards and authorities as these a new name was found. 'Regional public trusts' they were called in a whole series of reports that recommended one or other of these devices as a magic means for rehabilitating England's midland canals. And statutory trusts they were in both an old and a new sense. They held property in trust for their constituents as beneficiaries in much the same way as turnpike trusts. And they out-trusted their American namesakes and contemporaries by getting a watertight and statutory regional monopoly. They were the culmination of the pre-war tendency towards democratic ownership and control. They marked the close and not the beginning of an age.

IV. SAFE INVESTMENT

We live in an age when war and revolution, boom and depression, inflation and depopulation have attained to catastrophic and totalitarian immensity. By way of contrast we therefore play for safety. Amid so much that is incalculable

* (Harcourt) select committee on metropolitan water, 1880. x. (329).

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we try to find some sure stronghold on which we may securely reckon. The state, for instance, has assumed liabilities. It has covenanted for the payment of compulsory insurance benefits to the overwhelming majority of its working population. And at the same time it has honoured its national debt and paid the covenanted interest-rate to a numerous class of individual and corporate rentiers. With the public services as with the social services and the national debt service: nothing would suit the shareholder so well as to abandon the speculative risks and hopes of his grandfather and draw a gentlemanly fixed income. Let shares become stocks. Let dividends become interest. Let who will be the owner. He is not interested in abstract legal questions of ownership. He does not mind being expropriated if his contractual rights become more clearly defined in the process. So long as he is paid on the nail and in full he does not much care who draws him the cheque.

This is an age too of specialization. The all-round man of broad culture and wide interests is at a discount. The politician is content to be a politician. He wants to be left for those conflicts of abstract principle and that struggle for power in which he feels most at home. He has no wish to be immersed in the operation of trading concerns. He does not want to be in a position where he may have to disoblige his friends' friends when they are looking out for promotion or a job. He would not like to be held responsible for conditions of employment, especially if he considers himself dependent on the labour vote in his own constituency. And he would hate to have it thrown at him that, through his failure to stem the economic tide, the services he runs have not been made to pay and have therefore come on the rates.

The very immensity of the social services has not been without its effect on the public services. There was a time, within the lifetime of those of us who are still on the right side of forty, when public services were not infrequently

thought of as social services. Only thirty years ago the idea of making urban passenger services pay their way was treated by many radicals with the same scorn as would be meted out to-day to any who would dare to suggest that slum clearance ought to pay its way. Right back seventy years ago the utilitarian philosophical radicals thought it monstrous that transport should have to be paid for on a business basis. To-day we have changed all that. A labour minister has written its epitaph in a volume of reminiscences entitled 'The Socialization of Transport.' Social services may perhaps be subsidized out of rates and taxes, though even there we now prefer a self-balancing insurance fund; but public services, never again. They are trading concerns and must pay their way.

The investor then does not much mind who owns these public undertakings, so long as he draws a fixed rate of interest. And the politician does not much mind who owns them so long as he is not called on to operate them. They have got to pay their way without making inroads either on dividends or on the rates. The way to satisfy this double desire for an easy life is clearly to set up an independent body—an 'entity' as fascist Italy would call it—whose operations and policy are controlled neither by the stockholders nor by the politicians.

An autonomous corporation of this kind is admirably adapted to meeting the desires of yet a third party—the manufacturers of technical equipment. The development of a new service will ensure them a market for electrical and radio apparatus; they therefore have an interest in securing the most rapid possible expansion on the largest possible scale. They do not object to dealing with an all-embracing combine; for they themselves are children of an age that believes there is more to be gained by combination than by competition. On all sides, as they look out on shipbuilding, iron and steel, and cotton-spinning, they see the most exposed of Britain's

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basic industries obliged to abandon their traditional individualism if they are to regain their financial stability. Such an atmosphere is contagious. The 'producers' industrial self-government' to which these exposed manufacturing industries are tending might be too much to ask for in sheltered and monopolistic public services : but some comparable autonomy might easily be reached, some personal continuity between the leading trading firms and the new monopoly might be arranged and a far completer unity and monopoly might be attained to. And no room would then be left for the promotion of a new trading company that might compete not only in discharging the public service, but also in the manufacture of technical equipment, as the railway companies had long done.

From three sides then—the investor, the public authority, and the manufacturer—the pressure for setting up autonomous and monopolistic corporations, especially for new or expanding services, has been intense.

In Edwardian England the future seemed to lie with regional public trusts such as the Metropolitan Water Board and the Port of London Authority. But this type of unpaid representative body has passed out of favour since the war. It has been eclipsed by the autonomous statutory corporation. The change came when technical progress opened up an opportunity for trusts of more than regional scope. Electricity in particular outgrew the limits not only of the local authority but even of the region. The electrical trades clamoured before the war was over for 'a new and independent Board of Commissioners, free from political control and untrammelled by past traditions.*' And they got both a commission and a board—a state-paid Commission of technicians in 1920 for planning and adjudicating, followed by a financially self-supporting Central Board of business men in 1926 for the monopolistic operating of the grid.

* Letter to the president of the board of trade, 19 January 1917, in the (Williamson) electric power supply committee report, 1918 [9062]. Similar phraseology in the (Parsons) electric trades committee report, 1918 [9072], p. 5.

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Here then was a new model for an autonomous bureaucracy. It was closely copied in the state-paid commission of 1924 for adjudicating on metropolitan passenger traffic, followed by the financially self-supporting London Passenger Transport Board for monopolistic operating in 1933, with the important difference that the transport board is in two ways still more autonomous than the electricity board. Over three quarters of its area it is not subject to regulation by the metropolitan traffic commissioner. And to ease the minds of both its stockholders and the government, a conservative minister succeeded in divesting himself of responsibility even for the choice of the board, by the curious device of setting up another board of 'appointing trustees.'

In wireless broadcasting the copy was less close. No commission was here needed to bring plan into chaos; for the issue of only one post-office broadcasting licence gave a virtual monopoly to a pioneering piece of industrial self-government in the common form of a manufacturers' joint subsidiary operating company even before this was transmuted into the autonomous and monopolistic British Broadcasting Corporation by charter and not by statute in 1926.

It would be easy, however, to exaggerate the extent to which this type of organization has prevailed. State-paid standing commissions of technical experts have become numerous, and they have sometimes added adjudicating to their planning duties; yet their plans have not been left to the boards of financially autonomous corporations to put into operation, except in these three cases—electricity, passenger transport and broadcasting—in which almost alone they are undoubtedly public services. A wireless telegraphy commission, for instance, passed plans: but their purpose was imperial defence, and it was to the post office that it fell to carry them out. Marketing organization commissions have passed schemes; but it has been left to marketing boards elected by the hard-pressed producers to put them into

operation as a piece of avowedly non-disinterested industrial self-government. The Duncan sea-fish commission has conducted investigations; but the herring and sea-fish industries boards that have been appointed by the state from outside those hard-pressed industries are to regulate and not to operate them. Curiously, one instance that comes nearest to the parent type has made its appearance in what is furthest from being a public service: a sugar commission plans and adjudicates, but leaves the manufacturing of subsidized beet sugar to a monopolistic and autonomous sugar corporation, in the instructive hope that this device may lessen the drain on public funds.

It would be easy too to exaggerate the extent to which our choice, both in and out of the public services, has been restricted to the possible combinations and permutations of commissions and boards. State trading has continued in the post office. Municipal trading has continued wherever the municipality has not been outgrown by technical progress and economic change. The company with a monopolistic franchise and a limited dividend has had a curious revival in Imperial Cables and Wireless. The company with both a monopoly and a public subsidy has made its appearance in Imperial Airways. And the railway companies have been subjected to the novel experiment of a three-fold system of statutory checks and limits: an obligation to pay a pre-war rate of interest to their shareholders, an obligation to have their charges regulated by an independent tribunal, and an obligation to pay the wages fixed by yet another body—a set of outside checks and limits that has actually served to balance the claims of shareholders, users and employees, far more successfully than the device of the autonomous corporation. For the Achilles' heel of the new-fangled statutory corporation lies in its very essence: its inescapable debt to its stockholders, which it can shift neither onto the shareholder nor onto the ratepayer. It

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would seem to be financially the least flexible device that we have yet invented.

But we live for the present under the sway of boards and commissions. It is they that give its own peculiar cachet to the public-service organization of this present age. It has even been suggested by Dr Robson that these autonomous corporations should be made accountable to an audit commission as autonomous as themselves. Suspended as they are in thin air, unelected by any constituency, irresponsible through the cabinet to parliament, as secure in their tenure as the judiciary itself, they have brought a new element into our constitutional life. In some ways this reminds one of the American separation of powers, under which executive organs are not responsible to the legislature. In other ways they are a reminder that the essence of British constitutional life has hitherto lain in government by discussion among equals rather than in the exercise of sovereignty or the conscious planning of the nation's life as a consistent whole.

CHAPTER II

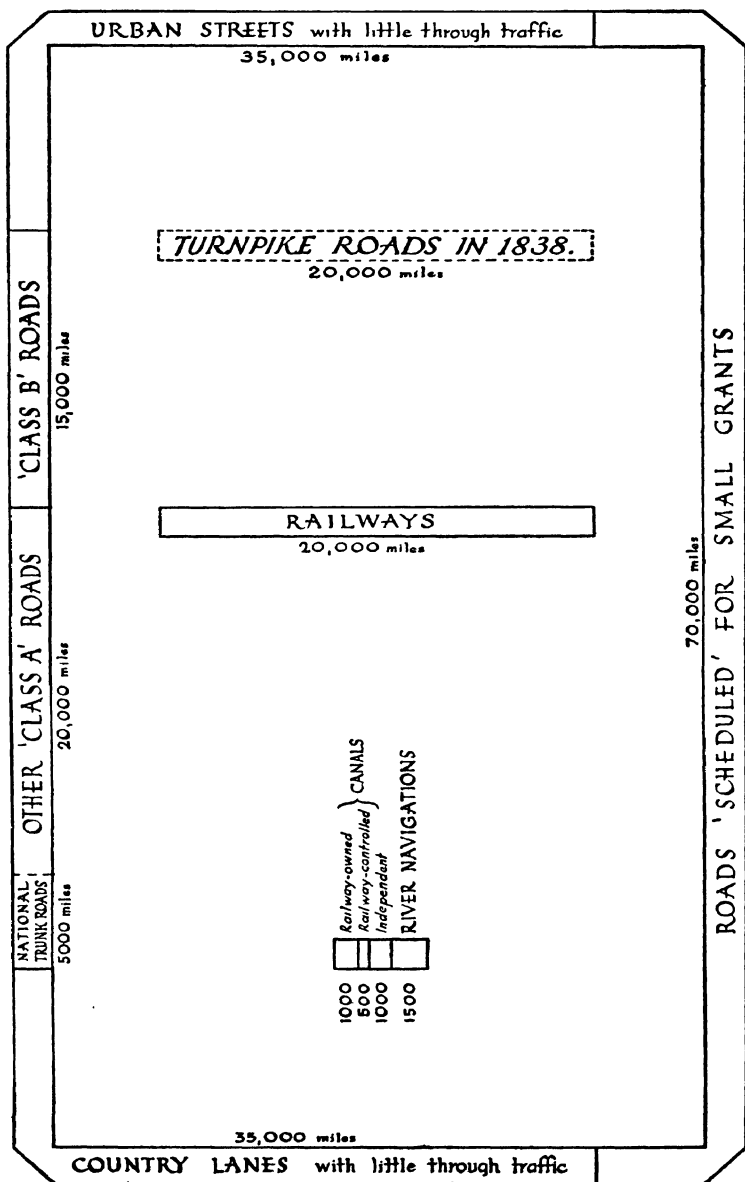
WAYS AND TERMINALS

I. HIGHWAYS

THE oldest ways are nature's ways. Time was when man might mend but never made them. The track along the downs, the path through the forest, the ford across the river, are no doubt as old as civilization and are of its very essence. In the middle ages, when our common law was young, the king's highway was still far from being a *pavé du roi*. The only paved streets were the few along which the Caesar's legions had once marched on foot. The highway of the horsemen, both before and after the days of Roman rule, was seldom more than a customary right of passage along a well-trodden route. It was not even confined to the beaten track, but might wander off to right and to left across the still open fields and the vast common waste wherever the usual track was foundeours and unpassable. Any harm that befel the traveller along this broad highway was an offence against the king's own peace. No one might levy toll on any wayfarer without the king's permission: there was but little room for robber barons in England. And in this sense the highway was the king's: it was the lawful right of the king and his liegemen to pass that way.

The middle ages were an age of constant movement. The English common law is the work of itinerant assize-judges. The earliest still readable English literature is the poetry of pilgrimage. The first large-scale export industry depended on the long-distance carriage of wool. The oldest piece of English social legislation is a law against vagrancy. The mere passing and re-passing of men and horses and rude carts must have made it hard for trees and bushes to take root and

BRITAIN'S TRAFFIC-WAYS, 1938



flourish along such a highway as this. And no doubt the men of the manor made firewood of the tree trunks that fell across the way, and kept down the undergrowth where wild beasts and felons might otherwise have lurked unseen. As for bridges—they were rare sights that dropped down from heaven by way of charitable endowment.

There came a time when manorial custom alone was not enough to keep the highway clear, or pious benefactions sufficient to keep the bridges safe. Henry VIII's reformation parliament made the county justices in quarter sessions responsible for levying a bridge-rate and keeping in repair such few bridges as there were. And under Philip and Mary another parliament made the parishes legally responsible for keeping the highway open. For one week every year, when the spring rains were over and the heavy harvest cartage had not yet begun, the labourers of the parish were to provide 'statute labour' and the occupiers who could afford it were to contribute cart and cattle to fulfil their 'team duty.' To superintend this compulsory labour, a surveyor of highways or waywarden had to be chosen by the parish from among its farmers or tradesmen, much as the manor chose its reeve. If any parish failed to do its duty, any local justice of the peace could present it at quarter sessions, or some other member of the gentry might get it indicted by a grand jury; and then the menace of a collective fine would hang over its head.

This was all very well until the roads that led to London and the other chief market towns were trampled to bits by pack-horses and post-horses and droves of poultry and cattle, and rendered out-of-date by the spread of coaching. With the growing trade and wealth of the seventeenth century compulsory parochial labour was no longer enough: it barely sufficed to maintain existing roads, and it offered no means of financing the expensive improvements that now seemed necessary. Under Protector Cromwell there was talk of a

highway rate : but local ratepayers were not eager to make straight the road for outside traffic. After the restoration, one or two parishes erected toll-bars to make the user pay. And in 1706 the first turnpike trust was set up by act of parliament.

The purpose of a local turnpike trust was to supplement and not to replace the parish highway. Its life was usually limited to twenty-one years. It was to do its job and be gone. During its short life it was to make a new highway or re-make an existing one. It was to borrow on the security of its tolls. And when the loan had been repaid, the improved highway would be handed over to the parish to be mended in the usual statutory way. Such trusts became so fashionable that in the course of four generations they rose in number to well over one thousand. But their very success was often due to their shortcomings, three of which turned out to be especially serious.

Like so much else in eighteenth-century England, they were local : this made them so small that their average length worked out at about twenty miles.

Like most local institutions, they relied on the unpaid services of local squires, farmers and tradesmen ; and these varied greatly in interest and experience. Here and there some trust was lucky enough to attract the services of a man like blind Jack Metcalfe who depended on the development of his local Pennine roads for the expansion of his trade as horse-dealer, coach-owner and inn-keeper. Here and there again some successful business man or government contractor would strike his roots into the soil and blossom forth as a country gentleman, county magistrate and turnpike trustee, and bring exceptional qualities to his new interests : such was John Loudon Macadam, who after retiring found a hobby in making-up private drives and public highways, got himself appointed as salaried surveyor to a local highway of which he was already a trustee, and thus incidentally provided

an opening for his son in the same new and lucrative profession.

Above all, like most authorities in most ages, they lived by squaring the greatest possible number of conflicting interests. Local farmers and manufacturers and churchgoers were let off toll; so were the king's posts; and the local gentry and tradesmen were allowed to compound for tolls on behalf of their whole household. The pedestrian, who got no footpath, paid no toll. The local solicitor became the paid clerk to the trust. Local tradesmen were engaged as contractors. The parish as a whole was glad of any lightening of its statute labour and team duty. And the trust's accounts were seldom audited or published.

It was not surprising then that most trusts paid off their mortgages only by contracting new ones. It was in vain that they got new laws to prevent the wearing-out of the roads that they had made, until Macadam converted them to adapting the roads to the traffic instead of the traffic to the roads. It was in vain that they tried to check the speculation of toll-keepers by farming-out the tolls to contractors; for the contractors formed rings, and kept their takings so dark that the trust could not see what next to charge. Combination helped only those that were already doing well on such well-riden roads as the Bath, the Bristol, and the Brighton. Expiring trusts were automatically renewed by parliament. In fact, if not in law, they became permanent institutions. They were too poor to die.

Outside England some were too poor even to live. Institutions with more financial flexibility were needed. A statutory commission for highland roads had to be set up in 1803, and financed half from imperial and half from local Scottish funds, before Telford—the stonemason bridge-builder who founded the Institution of Civil Engineers—could substitute coach-roads and bridges for Wade's anti-Jacobite infantry-roads and fords. A similar commission for the Holyhead road had

to be erected in 1820 to make the Union and the annual journey from Dublin to Westminster palatable to Irish members of parliament such as Sir Henry Parnell, Lord Congleton, which extracted three-quarters of a million from the imperial exchequer, fused all the North Welsh trusts, interfered with the English Midland turnpikes and levied extra tolls for the improvements made upon them. By the time Parnell and Telford had finished, it could no longer be said that the Welsh roads were the worst, as the toll-free Irish were the best, in the United Kingdom. Once it had made its appearance, the highway commission proved as useful in one economically advanced as in two economically backward areas. On the Middlesex side of London the jobbers into whose hands the 'pikes had fallen were compelled in 1826 to hand over their debts and assets to a respectable statutory commission with a Lowther as chairman, which showed what could be done in a flourishing district by successfully paying all its debts in thirty years and handing its highways back toll-free to the parishes. In an undeveloped country like South Wales, such success was unattainable; the roads cost more to maintain, and moderate tolls would have brought in less than anywhere else; popular indignation flared up in the midst of the Chartist agitation, when 'Rebecca's children' sent the toll-houses up in flames in 1842; the rioters found counsel for the defence in Matthew Davenport Hill; a royal commission saw no way out but the disbanding of the trusts; so Peel and Graham handed over the South Welsh turnpikes to boards of county magistrates, and provided them with a government engineer.

How were road-making and road-mending to be financed? The attempts to make roads by mortgaging tolls, and mend roads by a compulsory *corvée*, had both broken down. Compulsory labour, on the one hand, was laughed off the roads by the through-travellers who resented its being used exclusively for parochial ends. And compulsory tolls, on the other hand, ceased to provide adequate backing for credit

as soon as the traffic that paid them was captured by the railways. Both devices alike were attacked on utilitarian grounds by radicals and economists, who thought that trade was in itself so beneficial that traffic facilities ought to be paid for by the community at large and not by a monetary tax on users only or a labour tax on those whom trade too often passed by. The practical dilemma and the problem of principle were both solved by the simple expedient of going on the local rates.

In 1835, Lord Melbourne's reforming ministry substituted compulsory rates for compulsory labour on the parish highways. But the parish, in vestry assembled, embraced too many persons and too small an area. Roads might be more effectively adapted to changing needs if they were transferred to elective bodies with jurisdiction over a wider area. In the growing urban districts, such a body appeared in the shape of local boards of health from 1848 onwards: urban streets became theirs, to cleanse and to drain, and to dig up for laying sewers. In rural districts, a corresponding body was found in the guardians of the poor, after they were entrusted with sanitary duties in the 1870's; for the union of parishes over which their sway extended had been deliberately created to include all the villages that were in the habit of using the same market-town.

To these urban and rural district authorities the turnpike roads could be handed over, when the trusts were wound up and the roads dis-turnpiked. Between 1835 and 1870 their receipts from toll were halved. In a vain attempt to keep up their credit, they economized on road-repairs. So bad was their credit, that already in 1851 the turnpike trusts relief arrangement act gave that creditor the right to be paid off first who offered to accept the lowest percentage of the debts due to him. Before the end of the century they were all wound up. From the late 1870's the district authorities were compensated for their loss of toll by grants in aid of dis-turnpiked highways, both from the exchequer and from county

funds. And the block grants instituted by Goschen in 1889 were intended to help the county meet this cost among others.

Two processes were thus at work. The one was the widening of the area of authority : the district had completely superseded the parish as highway authority by 1900, and although there were few who used their right it was at least open to any county council that liked to appropriate from the district all that it regarded as ' main roads.' The other process was the broadening of the basis of finance : not only did the district supersede the parish, but it was itself helped by the county and by the state, as a recognition that even local traffic was of importance to national trade. Here the movement might perhaps have stopped, had not both processes received a new stimulus from the rise of motor traffic in the twentieth century.

Traffic ceased to be predominantly local. County councillors and county officials found that they could travel between the county town and the outlying districts and back again by car the same day, instead of going by slow and devious routes one day, putting up for the night at a hotel, and returning next day. They began to think of roads in county terms. The ' maining ' of roads by county councils, which had hitherto hung fire, now gathered speed. The advent of the motor lorry also doubled the usefulness of rural roads as feeders for the railway and links with local centres of consumption. A liberal government, committed to a double policy of land-taxes and back-to-the-land, therefore added financial inducements to county councils, in the interest of agricultural marketing, in its rural development and road funds act of 1909. It was becoming absurd to leave county councils to decide for themselves which were main roads : the new ministry of transport therefore took to classifying them in 1920, and in 1929 it compelled the county and county borough councils to take over these ' classified roads.' Meanwhile these county roads had to submit to a revival of long-distance

road traffic. And in 1937 nearly five thousand miles of the most important trunk routes outside the county and metropolitan boroughs were nationalized. Two hundred years later than France, Great Britain got her *routes nationales*: they are the highways of a motoring and not a coaching age.*

The convenience of the road-user has made for the widening of the area of authority: he wants all the roads he uses to be made as comfortable as the best. But finance has played a far greater part: the county, like the district and the parish before it, has regarded through traffic as a nuisance and has not wished to pay for the road-hog's pleasure. The dust flung up by the passing motor necessitated tar-surfacing; the speed at which he drove made it safest to give the motorist a longer line of sight; the weight of motor coaches and lorries made it necessary to strengthen road foundations and rebuild bridges; congestion and accidents in built-up areas made it advisable to by-pass towns and villages and open up new arterial routes in and out of Britain's overgrown cities and sea-ports. The cost of British roads was more than trebled in twenty years. There was a natural hesitation in deciding from which of the nation's many pockets the bill was to be met. The three possibilities were far from mutually exclusive.

Most of the burden—forty million out of sixty in 1929—has been left to the local rates. So far as urban streets and country lanes go, there is almost as much to be said for this to-day as there was in 1835; for roads such as these tend on the whole to add to the rateable value of the property they serve. But they account for less than two-fifths of the total.

Another bare two-fifths were 'scheduled' in the 1920's as possessing enough through traffic to justify national grants up to one quarter of their cost. And a good fifth of the roads were 'classified' in 1920 as eligible for national grants of half or more of their cost. But should these grants come from the

* Map in *The Times*, 6 Nov. 1936.

consolidated fund into which the general revenue of the state is paid? Or should they come from a road fund supported by the new users of the road? For thirty years the notion that the user could be made to pay may be said to have held the field. It was justified above all by the analogy of the railway, whose user may be presumed to pay for the track. It might claim a shadowy and indeed a shady ancestry as an attempt to do on a national range what the turnpikes had done on a local scale. And a visible return for one's money was a sugar coating that made fresh taxation palatable, and appealed to a chancellor of the exchequer who had enough psychological imagination to see that it was almost as good policy to give the middle class something for something as to offer the working classes something for nothing.

Making the user pay was of course open to the same theoretical objections in the twentieth century as when it had been attacked by the philosophical radicals and the classical economists of one hundred years before: improved highways were on the whole profitable not only to the user in particular but also to the community at large, in the convenience they brought, the time they saved, and the trade they stimulated: the state should therefore pay out of its general consolidated fund. Practical experience has led to the same conclusion: the road fund of 1909, fed by excise duties on carriage licences and motor spirit, was drained dry by the exchequer during the war; the road fund of 1920, fed mainly by excise duties that varied with the size of motor vehicles, was raided regularly by Mr Churchill as though the sovereign state had as much right to this as to any other tax on a conventional necessity; the motorist saw that his own nest egg was no more secure from unprovoked aggression than a member of the league of nations; a royal commission protested that all motor taxes ought to go to roads, leaving only the remainder to be met from the rates; the Salter report fell on stony ears when it suggested a further increase in motor-taxes in order

that they might suffice to cover the whole cost of the roads ; and in 1937 the road fund died and was buried unlamented. It was thus settled that national expenditure on roads should come out of the general revenue paid into the consolidated fund. And the user is digging up a finished chapter of history when he stills points to a broken covenant to drive home his argument that he pays more into the consolidated fund in the shape of motor taxes than he gets out from both this fund and the rates in the form of roads.

One thing the motorist has certainly not got. And that is cross-country roads comparable to the speedways and parkways of New York State and the Reichsautobahnen planned by the German Reich. The need for making such roads has naturally been slow in making itself felt among a people that is concentrated on a very small area of the midlands and south-east, with no vast expanses of forest and moorland between its chief centres of population. And until ribbon development began to blur the always hazy English line between town and country, it naturally looked as though speedways between towns would offer but little remedy for street accidents inside towns. But a land whose roads carry a greater density of traffic than those of any other, and whose town dwellers have taken to the road as the shortest cut to the countryside, will no doubt evolve its own characteristic form of motorway adapted to the peculiarities of its own landscape and traffic.

II. INLAND WATERWAYS

Great Britain has no Rhine, no Meuse, no Scheldt. Her natural waterways are coastwise, not inland. Her rivers are short and shallow. The basins they serve are small. She has long been a land of tidal ports and coast towns ; and between these the cheapest route was round the coast and not by inland waterway.

The Thames and some few other rivers, it is true, were held by the king's judges in the middle ages to be common highways ; for they had been navigated time out of mind. And the burgesses of their principal port were sometimes recognised as their conservators. Yet this did not prevent all non-tidal waters from belonging to the lords of riparian manors. The rights of these lords extended to fishing and milling, and they were therefore free to obstruct navigation by erecting weirs, as had no doubt been done by their predecessors from time immemorial. For a river serves other useful purposes besides navigation.

The mercantilist legislation of the new monarchy made these manorial privileges subordinate to wider interests. War was declared on the private weir, on the score of land drainage under the Tudors, for the weir penned up the waters instead of moving them away as quickly as could be, and in the name of river-navigation under the Stuarts, for the discharge from the weir scooped out the river-bottom under the weir and raised the bed further down the stream. On river after river some undertaker was empowered to override proprietary rights, substitute the newly invented pound-lock for the primitive flash-weir, and recoup himself by levying fees and tolls on the river craft that benefited from his enterprise. It was by letters patent that these undertakings were authorized under the earlier Stuarts, the crown taking care to reserve some financial advantages to itself under Charles I, and this gave place to acts of parliament in the days of Clarendon, William III, and the South Sea Bubble. The undertakers were sometimes guilds or boroughs, more often individuals or partnerships or joint-stock companies. Claims for compensation for the infraction of property rights were usually settled by statutory navigation commissions composed of the chief local proprietors. Such cases became especially delicate when towing-paths through private land were required for the human bow-haulage and horse traction that were found

more efficient than sail in the eighteenth century. And riparian proprietors were thus enabled to weigh other interests against those of navigation.

Most rivers were subjected to artificial improvement. Even if they served no centres of trade or industry, they contributed to the progress of agricultural improvement that was in full swing by 1700, offering a better means than the parish highway both for the marketing of corn and other produce and for the carriage of coal for lime-burning. But the rivers whose improvement has proved of most lasting profit have been those that linked up new centres of inland industry with rising sea-ports. On the east of the Pennine backbone, the Aire and Calder Navigation of 1698 cheapened the carriage first of cloth and then of coal from Leeds and Wakefield to Goole; it helped the West Riding in its rise; and some similar help was given to Sheffield by the Don, and to Nottingham by the Trent. On the west, the Weaver Navigation of 1720 played an equal part in putting the rising salt-trade of Cheshire in touch with the rising port of Liverpool, while the Mersey and Irwell Navigation gave some similar help to the rising fustian town of Manchester.

From this canalization of rivers it was a natural step to the construction of artificial canals. What had been done in Southern and Eastern France for one hundred years past by the crown and a corps of royal civil engineers, was now done in Western England in the 1760's by the Duke of Bridgewater and his family and a Derbyshire water-millwright, James Brindley. Their first canal superseded the Mersey and Irwell Navigation, enabling its projector to market his coal more cheaply, and freeing Manchester carriers from the danger of drought and flood and the delays inseparable from the winding course and the currents of a river. Their second canal broke new ground, linking the Weaver Navigation with the Trent, putting Josiah Wedgwood and the potteries into

touch with both the Mersey and the Humber ports, and becoming a veritable 'grand trunk' from which branches stretched out to Coventry and to Worcester, thus linking up the Severn with the Trent and Mersey. The opening up of the Black Country was completed by a whole network of canals around Birmingham, to enable ironmasters to bring coal cheap from neighbouring collieries, and transport their heavy goods with the greatest ease. The provision of Liverpool with a hinterland in Lancashire was consummated by the building of the Leeds and Liverpool Canal. By 1789 the movement was spreading to the south. Two canals linked the basin of the Thames with that of the Severn: from Lechlade to Stroudwater, and from Reading by way of the Kennet to the Bristol Avon. Two canals also linked the Thames with the West Midland system, the one joining the river at Oxford, and the other—the Grand Junction—joining the Thames both above London at Brentford and below London, by way of the Regent's Canal, at the London Docks. Of these Thames canals, the only one that brought profit to its promoters was the Grand Junction—now the Grand Union—and even this canal lived by carrying agricultural produce and building materials to London, and carrying back the refuse of the great city to be used as manure: its tolls made it dearer than coast-wise navigation, both for supplying London with coal and for re-distributing London's imports.

The length of Britain's inland waterways is said to have risen from some 660 miles in 1600 to 1,000 miles in 1720 and 4,000 miles in 1840. The greater part of this increase was due to the canal companies. One-third of these were paying a dividend of over five per cent. in 1837: two-thirds were paying less. Some few canals were fabulously successful: the Grand Trunk for instance. But the average canal did little more than pay its way out of the tolls it levied. These charges per ton mile varied from commodity to commodity, being fixed at as much or as little as it was felt that the traffic would bear.

Toll fell lightest on such cheap and bulky commodities as coal and limestone, which it had hitherto paid to carry only coast-wise or on navigable water. Toll fell heaviest on the more valuable articles, which it had long paid to carry inland. But the utility of canals to their promoters was not limited to the dividends they derived from their canal shares. The Liverpool merchant, the Stafford potter, the Birmingham ironmaster, and colliers throughout the Midlands, gained from the expansion of their businesses and the cheapening of carriage, whether it was themselves who transported their goods in their own boats, or whether they relied on some boat-owning common carrier.

The very fact that British canal-building was a spontaneous outcome of private initiative helped it to inspire a confidence and optimism out of all proportion to its actual merits. 'The prodigious additions made within a few years to the system of inland navigation, now extended to every corner of the kingdom, cannot but impress the mind with magnificent ideas of the opulence, the spirit, and the enlarged views which characterize the commercial interest of this country,' wrote John Aikin in 1795. 'Nothing seems too bold for it to undertake, too difficult for it to achieve; and should no external changes produce a durable check to national prosperity, its future progress is beyond the reach of calculation.'*

The weaknesses of the canal system showed themselves as soon as a railway network began to take shape in the 1840's. Canals were slow, and trains were fast. Canals ceased to be used except for goods: railways were able to meet their overheads out of passenger receipts as well. Canals drew their revenue only from tolls levied on carriers: railways were able to keep up their permanent way out of their own earnings as carriers. Canals flourished only for local traffic in a very limited number of midland areas: the railways encouraged through traffic and set up a clearing-house. A canal, it was

* *Lancashire*, p. 137, cited in Canal commission 1910.

said, could say what the tolls would be between A and B : a railway could quote the inclusive charge between A and all the letters of the alphabet.

Canal shareholders saw their weakness, and hastened to make terms with the railways. A few, like the Trent and Mersey, converted themselves into railway companies, and then insisted on their nominal share capital being converted into five per cent. preference shares as the price of their absorption in a railway merger. Others, by threatening to do the same, preserved their legal identity by inducing a railway company to lease their way in return for a rent in the form of paying their interest and dividends for them. Others again, such as the Birmingham Canal Navigation Company, withdrew their opposition to railway competition only when the railway promoters guaranteed them a four per cent. dividend in return for a majority of seats on the board of directors if ever they should have to honour their guarantee. From geographical necessity it was inevitably the old London and North Western Railway—the present L.M.S.—that had to make most of these expensive arrangements. Other canal companies that were not in a position to make such good bargains for the future, just got themselves bought out, as happened with those that the Great Western Railway absorbed between the Thames and Severn basins. About half the canal mileage of Great Britain—more than a third of the total mileage of all her inland waterways—thus passed under either the ownership or the control of the new railway companies. These became canal-owners unwillingly, in order to buy off parliamentary opposition : they remained canal-owners in order to keep down competition. They did not believe in canals, except when their trade was almost too heavy for the railway to handle, as happened in the Black Country. No act of parliament could compel them effectively to compete with themselves. Under railway management the canals were less likely than ever to evolve the systematic collaboration and

the through rates that they had failed to evolve when their fate was still in their own hands. British railways went further than British canals in helping trade by reducing the cost of transport.

Elsewhere it was otherwise. The rise of heavy industry on the continent in the late-nineteenth century brought back the waterways of Europe into their own. Rhine and Meuse and Scheldt became natural highways for coal and iron and ore. And if they were to be used to the fullest, they must be supplemented with canals of similar magnitude. The bigger the barge, the lower would be the cost both of labour and of traction. The greater the economic gain, the more it seemed worth while to overcome the great heights of Belgium and of France, especially as they were compensated for by comparatively long stretches with few or no locks. The German territorial governments made no profit from their canal tolls. The Belgian kingdom made a loss. The French republic in 1879 made its canals as toll-free as its roads. And in all three countries the governments set to work to widen their canals to take three-hundred-ton barges at the least, or six hundred tonners towards the Rhine. The English Midlands looked on with envy. They had no alternative to railway carriage. Their chambers of commerce agitated. In 1910 they got a report from the Shuttleworth royal commission advocating the unification of British canals under a non-political 'national waterways board,' able to raise capital on a treasury guarantee, and sure that the Treasury would be fully prepared to face a loss. In 1921, when the railways were being merged into four groups, Birmingham got a similar report from the Neville Chamberlain committee, advocating a similar grouping of canals, but in the hands of 'regional waterway trusts,' with their capital guaranteed by the constituent local authorities; or, if a complete system seemed too costly, then at least a Trent trust as a first instalment. But the post-war contraction of the heavy industries brought a slackening

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of the agitation and a reduction of canal traffic, while newer and lighter industries found an alternative to the railway in the motor-road, not the waterway. A few improvements there certainly were: the Trent was improved by its navigation company, acting on behalf of its various bodies of conservators; and a 'grand union' of all the canal companies between London and the Midlands has brought an improvement even in through communication from the Midlands to the continent. But canal tunnels and locks remain numerous and narrow in this low but hilly land. The canals that pay best are so lined with private wharves that they cannot profitably be widened. The Black Country and the Potteries must make do with a thirty-ton narrow monkey-boat, and London's Grand Union with a sixty-ton barge. This island is not, and never has been, a land of inland waterways.

III. SEA PORTS

The nature of this island, that has made it abnormally poor in navigable inland rivers, has made it uncommonly rich in tidal ports. England's tidal waters have been common highways, open to all the king's subjects from time immemorial. The conservancy of the royal streams that are her estuaries has lain with the corporations of their chief ports—London for the Thames, Colchester for the Colne, York for her Ouse, Newcastle for the Tyne, Bristol for her Avon—from the time whereof the memory of man runneth not to the contrary. And for long ages there was little enough that man was called upon to do but to make as much or as little as he chose of the tideways that nature had given him.

The coastwise route from port to port was cheaper than all other routes, in that it never needed mending like a road or a canal. But the perils of this God-given highway could none the less be lessened by permanent organization. The safety of the coasts was the principal object of care and expense

in the days of the sailing ship. Pilotage to London and its outports, from the Colne to the Channel, was organized by Trinity House from at least the reign of Henry VIII; and other ports imitated this example. The right to set beacons and buoys around all the coasts of England was granted by Queen Elizabeth to the same 'gild, fraternity, or brotherhood of the most glorious and undivided Trinity, and of St. Clement in the parish of Deptford Strond in the county of Kent'; the Eddystone lighthouse ranked high among the engineering dramas of the eighteenth century; expenses were met by levying tonnage dues on all passing ships; and some ports began also to levy local light dues for the lighting and buoyage of their approaches. The treasury even set up a commission, engaged Telford, and poured out subsidies to link up the Highland lakes into a Caledonian ship canal after the Napoleonic war, in the vain hope of saving sailors from the dangers of the northern coast, much as the Dutch government at the same date wasted millions on linking up the lakes of North Holland into a safe cut for sailing ships that feared the Zuyder Zee. So late as the 1850's, a chain of government-subsidized harbours of refuge was being clamoured for; for shipwreck was then taking toll of eight hundred lives and a million and a half of property each year.

Though safety came first among the older problems, it did not for long stand quite alone. For old ports sometimes silted up; and Bridlington in 1694 and Colchester in 1698 obtained what seem to have been the first of a long series of harbour improvement commissions. More important were the new problems posed for the Western ports by the expansion of the Atlantic trade. These could not trust to nature. If Glasgow had not set its poor to deepen the Clyde, it could not have profited from the act of union and grown rich on trade with the American colonies. If Liverpool had not poured out its thousands on dredging and on the earliest of closed docks, it could not have overcome the bar at the

Mersey's mouth or its abnormally powerful tides. If Bristol had not invested in a floating dock, it would have been left high and dry by its competitors, like the vessels for which it was providing. And it was a mere matter of accountancy that the corporations of Glasgow and Liverpool converted themselves into trusts for these purposes of port improvement, and that the Bristol corporation at first formed a dock company, so as to share the cost and the profits with the Bristol merchant guild, and later bought out the company, so as to be able to raise money on the local rates as well as on the dock dues.

A third need of the day of the sailing ship was the lessening of the leakage of goods as the vessel lay in port. Nowhere was this need greater than at London. The cargoes that it handled were of exceptional value; for the old colonial system of the eighteenth century and the mistress-ship of the seas in the days of Nelson had given Britain a monopoly of the trade in tropical produce, and made London the surreptitious shopkeeper of all Napoleon's Europe. The discharging of cargoes overside into lighters, their slow and complicated inspection by custom officials, and their eventual landing outside the array of private wharves with which the pool was and still is lined, offered unrivalled opportunities for pilferage. It was in the interest both of the merchants and of the Treasury to find a safer method. This was the achievement of the statutory dock companies that issued from the younger Pitt's war-time alliance with the city.

To enable it to raise the necessary capital, each of these companies was given a statutory monopoly of the discharging of a certain commodity: to prevent its abusing this monopoly, the franchise was limited to twenty-one years, and the dividend distributed by the company to ten per cent. Thus the West Indian Dock at Poplar (1799-1802) was granted a monopoly of sugar, the East India Dock a little further down stream at Blackwall (1803-08) had a monopoly of tea and was indeed a subsidiary of the monopolistic East India Company, and the

London Dock higher up at Wapping (1800-05) was given a monopoly of such tobacco and rice as came to London, mostly from North America, and wine and brandy from Europe. At the same time, to make the monopoly more complete, these docks alone were singled out for the licensing of bonded warehouses. They were thus enabled to make a double profit: as dock-owners they levied dues both on sea-going ships that used their waters and on the cargoes that were landed on to their quays; and as proprietors of bonded warehouses they charged for handling and storing commodities.

The application of steam to transport brought numerous changes. Some were the work of the railway, others of the liner. The railway led to the development of the railway port: the railway company would develop its own docks, as at Hull or Swansea or Cardiff, and sometimes even a whole port, as at Fleetwood or Barrow, Folkestone or Harwich; such a port would act as a natural continuation of the railway line, either for the shipping of coal or for the ferrying of passengers across the narrow seas; traffic of this sort would be directed towards each railway company's own port; and all others felt aggrieved.

The steamship too became a liner, running to time. With the speeding up of voyages, the port stood inevitably for a greater proportion both of time and of running costs. It was therefore more necessary than ever that harbour facilities should be adequate for loading and discharging its cargo without delay. The steamer became steadily bigger, necessitating a constantly increasing draught of water, up, ultimately, to the Suez Canal standard of nearly thirty feet. And all this time the volume of international trade was growing even more rapidly than its value. A modernization of the principal ports was therefore constantly called for.

Nowhere was this more evident than on the Mersey and the Thames. When the Liverpool corporation treated its docks as a source of revenue, rival docks were established at

Birkenhead. When Liverpool and Birkenhead promoted rival bills, a private bill committee asked the Liverpool corporation to promote a bill for their fusion under a public body of dock trustees. And when the Liverpool corporation failed to comply with this request, the committee adopted a bill promoted in this sense by the Manchester chamber of commerce and the Great Western Railway, depriving the corporation of all voice in its own port in 1857. This act, which set up the Mersey Docks and Harbour Board, was enunciating a very important principle when it recited that it was expedient ‘that the management of the docks . . . and the control over . . . all other matters conducive to the safety or convenience of the shipping . . . should . . . be vested in an independent public body elected by the persons that pay rates for the maintenance of the docks and works; and that all rates and dues levied on shipping or on goods . . . should be applied for the benefit of the port . . . and of the shipping.’ All the assets and liabilities of the port on both sides of the Mersey were simply transferred to the new authority; the corporation of Liverpool was paid the lump sum of £1,500,000 to compensate it for not profiting from port dues in the future; the new board became representative of the ship-owners, the brokers, and the sugar and cotton interests; and they were able to raise loans on the security of the dock-rates. After forty-five years’ experience, ‘You are the authoritative witness of what I will call a model body,—the greatest trust in the British Isles really,’ was the style in which its general manager was addressed by the chairman of the royal commission on the port of London.*

Manchester was less satisfied. It saw how Sir John Hawkshaw’s North Sea Canal had transformed Amsterdam from a Zuyder Zee to a North Sea port, and de Lesseps’s Suez Canal linked the Mediterranean with the Red Sea, now that steam had made canals navigable to ocean-going ships.

* 1902. XLIII. [1151]. Q. 4595.

It resolved to circumvent the Mersey Docks and Harbour Board and reduce the cost of transhipment by making itself into a seaport thirty-six miles inland and seventy feet above sea level (1882-94). Local business enterprise proved unable to raise enough capital to complete the task, even though it distributed a dividend on ordinary shares out of capital during the years of construction. The municipality then came to the company's aid, borrowing on the security of the rates, and acquiring a dominant voice in what became one of Britain's rare instances of the 'mixed enterprise,' part municipal and part private, beloved of the continent. The oldest of England's narrow inland canals, the Duke of Bridgewater's, was swallowed up in the newest of her ship canals; and little by little this canal attracted traffic, until it now carries as much as was handled by Liverpool half a century earlier when the canal was first being mooted.

London meanwhile was suffering from two lingering diseases. The one was the state of its river, the other the state of its docks.

The river was unusual in having no well-marked bar across its mouth, so that it needed little dredging until the draught of ocean-going ships grew so great that they had to wait in shoals for the tide to rise, thus losing one of the chief advantages of steam over sail. And then there was no body capable of giving the shipowners good value for the dues they paid, and meeting their demand for a channel of Suez Canal depth. The city corporation's responsibility for the conservancy of the Lower Thames had been shared with government departments since 1857, with owners both of river-craft and of docks and wharves since 1864, and with representatives of riparian local authorities since 1894; but this last addition showed that its province had changed; it had become responsible for the Upper Thames in 1866; the conservancy board had moved upstream and become an amenity authority, with no funds for the conservancy of tidal navigation.

If the channel were not deepened, improvements to the docks would be valueless ; and they were in any case impossible, since the dock companies similarly found themselves unable to keep pace with the increasing size of ships through their inability to raise fresh capital. Between 1855 and 1875 the 'royal' docks—the Victoria and the Albert—had been built lower down the river by the London Dock Company, so as to draw on rail-borne as well as cart-carried traffic. And in 1882 the East and West India Docks Company went one better by building the Tilbury Docks still lower down the river. But the Tilbury docks did not pay ; and even when the rival companies amalgamated in 1900 they were unable to pay a dividend of more than one per cent. Only the Surrey docks on the south, with the exceptional space at their disposal for storing timber, were financially sound. The principal reason for this inability of most docks to pay their way was their failure as warehouse-proprietors to compete with the up-river wharves. This failure was due partly to parliament's attempt to hold the balance even between the dock companies and the wharfingers and lightermen : the dues which the companies had been empowered to levy on shipping and on landings did not extend either to goods discharged overside on to Thames lighters or barges, or to the lighters themselves though they crowded the docks and carried half the cargo upstream to the wharves without its being landed on the quays of the docks : so long as the lighters enjoyed 'free water,' London would remain a barge port. The failure of the dock companies to attract more custom to their warehouses was due also to the general trend of economic evolution : the greater regularity, which steam had brought into the arrival of ships, made warehousing less necessary ; the extension of free trade diminished the range of articles for which the bonded warehouse was imperative ; and the general dislike of monopoly led the customs authorities to license other bonded warehouses besides those in the docks.

The delay to which large ships were subjected at London was contrasted with the admirable equipment of neighbouring continental ports such as Antwerp, Rotterdam and Hamburg. Their entrances of maritime tonnage were gaining rapidly on London's figures ; by 1907 they would catch London up in maritime tonnage, though not in value. This increase in the traffic handled on the Elbe, the Meuse and the Scheldt was due almost entirely to the epoch-making rise of the coal and steel industries of Belgium, North France and Germany. Birmingham was directly concerned with this development when it asked for canals like those across the Channel : London was only indirectly affected when it asked for equal port facilities. London knew that much of Europe's expanding *entrepôt* trade was going to continental ports, as a side-line to their heavy goods traffic, now that what had once been luxuries were being ordered by the shipload instead of by the parcel ; and it feared that it might soon become cheaper to use continental ports for the transshipment of overseas cargoes even to British consumption-centres. It saw that these continental upstarts were being improved ahead of demand, thanks to their longer purse.

The London dock company's proposal to rehabilitate its finances by depriving lightermen of their free water produced a storm of protest and a royal commission. The royal commission proposed that local authorities should grant a subsidy for deepening the river and a guarantee for future loans. 'The power,' it said, 'of undertaking large present expenditure and of working for a long time at a loss with a view to compensation in a distant future, is no doubt in the keen world competition an advantage possessed by undertakings which have the force of an empire, state, or great city behind them. If, in some countries, national or municipal resources are thus employed, it becomes most difficult for private enterprise elsewhere to hold its own against the intelligent, far-sighted,

and formidable rivalry thus created.’* But such subsidies were to be subsidiary to the unification of the various dock companies and the Lower Thames conservancy. The new authority must be able to stand on its own legs and bring the port as a whole, both docks and river channel, up to date. ‘The deficiencies of London as a port,’ it concluded, in a well-known and ponderous warning, ‘are not due to any physical circumstances, but to causes which may easily be removed by a better organization of administrative and financial powers. The great increase in the size and draught of ocean-going ships has made extensive works necessary both in the river and in the docks ; but the dispersion of powers among several authorities and companies has prevented any systematic execution of adequate improvements. Hence the Port has, for a time, failed to keep pace with the developments of modern population and commerce, and has shown signs of losing that position relatively to other ports, British and foreign, which it has held for so long.’†

A new Port of London Authority was eventually set up in 1908. It was modelled on the Mersey Docks and Harbour Board, in that eighteen of its members were to be elected by users of the port—one by the wharfingers and all the others by the payers of dues ; but to these were added ten nominees of government departments, Trinity House, the city and the county, care being taken by both the county and the government to include trade unionists among their nominees. The chairman was to be salaried : the others would have to draw their incomes from their other occupations, much as though they were members of a local authority. And, like a local authority, this functional authority was to work mainly through committees. £23,000,000 was borrowed on Port stock, with which to purchase the docks and their equipment ; and during the next eighteen years a further £17,000,000 was borrowed in order to meet subsequent capital expenditure. The dock

* *Loc. cit.*, p. 99.

† *Loc. cit.*, p. 124.

warehouses remained in the authority's hands ; they have found a new field of usefulness, with the rising demand for cold storage for London's imported meat ; with the warehouses, the new authority has inherited the old suspicion that the up-river wharfingers are unfair competitors, especially now that they profit from the deepening of docks and river to which they hardly contribute ; and although the authority has not yet seen its way clear to obtaining a statutory monopoly of warehousing, it would at least like the power to limit the extension of competition. Meanwhile, it has carried out its chief task. It has facilitated the handling of the increasing cargoes destined for the growing consumption of Greater London's millions. It has made it possible for the tonnage that uses the port to double in twenty years : it has enabled it to increase at the same rate and to the same extent as that of the continental ports whose potential rivalry it feared.

Thus the greater ports have grown greater. Meanwhile the smaller ports have dwindled. Seventy that the official statistics used to enumerate in the days of the sailing ship, are now grouped together each year as 'other ports.' The big ship that has proved to be the most economic ship of the modern world is too big to enter them. The railway truck has undercut the coasting vessel on which they used to depend. And the local industries they served have declined, in competition first with the coalfields and now with the centres of consumption. Their harbour authority, whether a trust or a board of commissioners, can seldom levy dues enough to keep them in repair. The local authority, burdened with the cost of road-making and re-housing, shrinks from taking them over, unless it is a holiday resort that finds picturesque survivals an attractive advertisement. The Development Commission, set up under the same act as the road fund in 1909, has made grants, and advanced and remitted loans, to many of the poorest of Scottish harbour commissions, to enable herring fishermen to reach their work without having

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to pay toll; for it is pursuing in vain both the economic objective of keeping the herring industry alive on its time-honoured basis, and the social objective of keeping primitive communities of fisherfolk intact. In England, even the Development Commission has recognized that most inshore fishing harbours have lost their justification; for many of them serve a market that is too small to enable them to earn a modern standard of life. And it is to a few big ports of the north-east and the west that big steamers bring the white fish that the railways hurry to the fried fish shops of the great urban centres of modern Britain.

IV. AIRPORTS

The function of an airport is to minister to the modern demand for speed.

To locate an aerodrome half-an-hour's ride or more from the centre of a city is to take a big chunk out of the time that might be saved by air travel. In a land of small distances such as ours, where the saving has hitherto in any case been only slight, it has been made still slighter by the uneconomic location of aerodromes. Yet this difficult siting has been inevitable in a land and age of overgrown towns, where central sites are no longer to be had. If the air had been the first instead of the latest medium of human locomotion, the aerodrome might perhaps have been in the centre instead of on the outskirts of the towns. But things did not happen that way, and the air has to pay for being the Cinderella of the transport family. The most that could be done was to link up the terminal aerodrome with the centre by the quickest possible connection. This was considered twenty years ago to be the motor road: to-day it is thought to be the electric railway. The roads have become too crowded; but suburban railway lines are also too crowded to allow the running of a special railmotor for every aerial arrival or departure. This

change-over from dependence on the road to dependence on the railway was inconceivable before the railways abandoned their attitude of rivalry and settled down to a policy of co-operation with any and every form of transport. But it is due also to other tendencies. One of these is the shifting of British aeronautical interest from continental to imperial services, which call for a south-coast harbour for flying boats rather than a suburban aerodrome for landplanes. Another is the growing need for larger aerodromes than are now to be had in the inner suburbs, and which are now therefore looked for on the main lines further afield.

The size needed for an airport has also grown with the growth of speed. The air ministry suggested in 1929 that a runway of six hundred yards was an indispensable minimum, with one thousand yards as a desirable maximum: within eight years, the desirable maximum had become an indispensable minimum. Yet Croydon was then practically the only British aerodrome that could offer a run of even this moderate length. So far from being planned for high-speed commercial flying, the majority of British aerodromes were little more than private meadows, or municipal recreation grounds for the light machines of flying clubs. They have fallen out of date almost as soon as they have been laid out. And with each increase in size they have increased in costliness.

The ownership and operation of any aerodrome required for general commercial use has had to be left in public hands. For an aerodrome or landing-place that was dependent on the operators of some particular airline would inevitably be suspected of favouring that concern and handicapping its competitors. For commercial purposes, the pioneering ventures of limited liability companies have therefore been eclipsed by national and municipal facilities. Croydon and a few other government aerodromes were civilianized after the war: it was they that provided an initial jumping-off ground for the continental services. Municipalities, but not

counties, were next encouraged from 1924 onwards to invest in suitable sites, with an eye on a perhaps distant future, before local land values rose with the further expansion of the town; to these municipalities the air ministry transferred its civil aerodromes at Manchester and Renfrew; and of the thirty municipal aerodromes licensed down to 1936, two-fifths had failed to attract any commercial traffic. And when it came to making Langstone harbour into a marine airport for empire flying boats, both the air ministry and the Portsmouth municipal authority shrank from facing any unavoidable loss. With charges low enough to attract traffic, nearly all these early British airports are inevitably a subsidy to air transport. Twentieth-century Britain has been prepared to do both locally and nationally for this comparative luxury, what she has steadily refrained from doing for her great sea ports and the water-borne traffic on which millions of her people depend.

Ground organization, finally, has gradually shown itself all-important if the airlines themselves, as distinct from the airports, are to come within sight of paying their way. It seemed probable that an organization that made blind flying and blind landing possible might add to the safety and regularity of air traffic and attract more custom. And by allowing each plane to be flown for a great number of hours in the year, it would improve the ratio of its earnings to its overheads, and thus contribute to the financial balance of airline companies. All such radio direction-finding apparatus, like the aerodrome itself, would have to be in public hands if it were to be above all suspicion of favouring one operator against another. As it would be as useful to planes whose airway passed within range of an airport as to those that were landing there, and as helpful to warplanes as to civil craft, there was much to be said for its retention by a national body. And it was indeed the air ministry that provided ground organization for the continental airway in the 1920's, and contributed largely to a network of experimental stations on internal airways in the 1930's.

CHAPTER III

RAILWAY TRAFFIC

I. COMPETITION ON THE LINE

THE railway has not only brought a new freedom of movement into human life: it has also introduced a new element of dependence.

Before the coming of the railway, there was a clear distinction between passing traffic and a permanent way. The way might be made by nature, as with the sea or tidal rivers, or beaten down by the feet of untold generations, as with the parish roads; or it might have been made or made straight by man within living memory, as with turnpikes and navigations. It might be free to all comers; or it might be open to them on payment of tolls or dues. But it was in all cases a common highway along which any one was free to carry goods or passengers, provided only that he complied with the rules of the road. If any conveyance was too dear or too slow, it was open to any one who wished, to find or to provide a cheaper or a faster form of transport. Carriers competed with one another for custom. Traders ran their own conveyances. Coaches raced one another on the turnpike roads. Fly-boats outsailed barges on the navigations. Liberty to improve a permanent way was conferred by act of parliament: but freedom to use that way was a natural right, the birthright of an English freeman. No restriction on that right could be admitted, except as the price of fuller facilities. The provision of the way became a public service: carriage along that way remained a private venture.

So it was with the earliest public railways. They were rail ways, rail roads, open to all on payment of toll. The Surrey Grand Iron Railway of 1800 could be used by any carrier carting building material down from the North Downs

CHANGING RAILWAY ECONOMICS

RATIO OF GOODS RECEIPTS TO PASSENGER RECEIPTS



1825

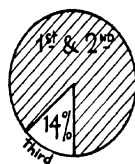


1842

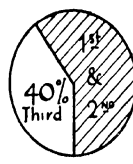


1862 - 1938

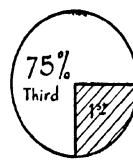
RATIO OF THIRD CLASS TO OTHER PASSENGERS



1844



1870

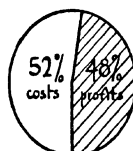


1886

RATIO OF OPERATING COSTS TO NET RECEIPTS



1870



1888

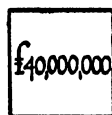


1900-1913



1929

RATIO OF AVERAGE NET RECEIPTS TO 1913 STANDARD REVENUE



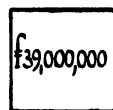
1900



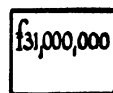
1910 - 12



1913 - 1921



1922 - 30



1931 - 38

or hauling coal up from the Thames, if only he was prepared to fix flanges to his cart-wheels. The Stockton and Darlington Rail Way of 1825 could be used by any local coal-carts. In all the earliest railway acts parliament insisted on this general right, and on the right of all railway-side landowners to have access to the line, much as roadside landowners had access to a road. And it fixed maximum tolls for the use of the iron rails in exactly the same way as for the use of canal or of turnpike.

There would, however, have been no rush to build public railways if the promoters had looked for a revenue only from tolls. From the Stockton and Darlington onwards they looked also for a profit from traction and carriage. Stephenson's discovery that a steam locomotive could grip a smooth iron rail, enabled them to provide a mechanical form of traction that worked out quicker and cheaper than the animal traction used by their clients. This steam traction they were prepared to use for hauling other people's coal trucks. Nor was this all. They provided waggons and carriages of their own. They carried as well as hauled. They provided carriage and traction as well as the track.

Parliament recognised this, when it laid down maximum charges for carriage and traction, as well as maximum tolls for the use of the track. It even put the Liverpool and Manchester railway under a statutory obligation to act as carrier. Yet it never gave the railway company a statutory monopoly of traffic over its own line. It insisted that the line must be open to all comers. And it trusted that competition on the line would keep charges low and services efficient.

Parliament's first grave complaint against the new companies was aroused by financial abuses connected with their flotation. So early as 1837 a select committee was investigating colourable subscription lists, got out to deceive a private-bill committee into believing that a company could actually

be financed. Nothing that parliament could do could prevent gambling in local railway scrip, even before the company had been incorporated by statute or the first call made. It was in vain that a committee of lords protested against 'the fearful amount of gambling . . . by which many persons have been entirely ruined and a demoralizing effect extensively produced upon the humblest as well as the highest classes of society, while the trade of the country has been injured, owing to capital being diverted from its ordinary channels.'* The promoters of local railway companies used any and every device for attracting subscriptions. The chairman of the Grand Junction Railway, when asked by a select committee to suggest what other reasons besides inexperience had led costs to exceed estimates by forty per cent., replied: 'I think it is owing to the engineers invariably giving in incorrect estimates. . . . I think engineers are convinced few parties would go into railroads if they knew the whole expense. . . . They do not put all the things down; and when you complain they say, "We do not put down the stations and other things." The persons who take the shares are ignorant of these matters, and they take the shares under the notion that the sum stated is to do all.'† Thirty years later, the London, Chatham and Dover Railway was still able to spend four million pounds out of its nominal capital of sixteen million in raising the remaining twelve.‡ Parliament itself had to bear some share of the responsibility for what it did as well as for what it failed to do. For it might cost one thousand pounds a day to keep witnesses in town for perhaps ten days, awaiting the turn of their company to come before the parliamentary committee, 'much to the injury of their own business and with a demoralizing effect upon themselves,' as a lords' committee said in 1846. When to these abuses, inseparable from the contemporary

* H. of L. select committee, 1846. xii. (469). p. 6.

† Select committee on railways, 1839. x. (222). Qq. 480 sqq.

‡ Royal commission, 1867. xxxviii. [3844]. ii. p. 299.

English method of financing public undertakings, was added the exceptionally high cost of land in what was then a well-farmed and already a well-built-up country, it was not surprising that the cost per mile of railway-building was higher here than in any other country of the world. It varied immensely.* But it was reckoned that it averaged twice as much in England as in Belgium or Prussia, and half as much again as in France, with the result that English railway companies were soon paying considerably lower dividends than their continental neighbours.†

It was not until 1839 that a select committee reported to parliament that competition on the line had become a myth. Steam traction was coming to mean monopolistic traction. In actual practice, the railway companies were making it impossible for their competitors to exercise their legal rights. 'Other companies can put locomotives on their line by paying a toll,' the committee was told by Carr Glyn, the promoter-chairman of the London and Birmingham; 'but they can refuse them coke, water, the use of their stations and fixed engines, turnplates, and any assistance from their servants, unless they come to terms with the company. No parties could run on their line without their consent, and make a profit.' Similarly with the carriage of goods and passengers. One great advantage of train travel was the saving of time; so no passenger would risk his life and lose his time in a train run in defiance of the company. And no goods carrier could be sure of prompt treatment unless he came to some arrangement with the company, as Pickford's did with the London and Birmingham. 'The railway companies,' Carr Glyn added, 'must carry the goods of all if they have the power; but they may restrict that power, select any carrier as their

* Fenchurch Street-Blackwall, £180,000 a mile. London-Croydon, £70,000. London-Brighton, £37,000. London-Birmingham, £50,000. Birmingham-Warrington (Grand Junction), £23,000.

† Chadwick's evidence to royal commission 1867, *loc. cit.*, i. p. 851. Many estimates had been current since at least 1844.

sole agent, and, as the law stands, there is no remedy against them.'

Now that 'competition on the line' had proved to be an illusion, the House of Commons was somewhat at a loss to know how best to ensure the public service. The select Committee of 1839 argued thus: 'It has been found to be the opinion of some of the witnesses that the interests of the railway companies and of the Public can never be at variance, and that the managers of these great establishments, acting with an enlightened view of their own interests, will always have a due regard to the general advantage of the community. A more strict investigation has, however, shown that this assumption is not without exceptions: a main object which the directors of a Company must have in view is to obtain a good return for the capital expended; while it is the primary interest of the Public that the intercourse should be regularly maintained with the greatest safety, speed, and economy. . . . Cases have already arisen in which the interests of private Companies and of the Public have been bound to be opposed to one another; and it appears probable that in proportion as this new system shall supersede other modes of travelling, other inconvenient consequences will ensue, unless some authority be established, to watch over and protect the interests of the Public.*' This committee was already able to cite two instances of companies that had increased their takings by raising fares and driving away passengers. Nothing could be more natural when the price of carriage ceased to be settled by free and unlimited competition.

Parliament hesitated. Next year another select committee endorsed this general feeling; but it accepted the opinion that no good would be served by going back on the powers that had been granted to the companies under a quite erroneous impression. It would be better 'to carry along with them the good feelings and support of the railway

* 1839. (517). p. vii.

companies and their directors, thereby exciting their continued exertions to meet the wants and remedy the complaints of the public.' This attitude led to two practical attempts to safeguard the interest of the user by means less automatic than competition.

The one was the formation of a railway department at the board of trade, to sanction company's by-laws, inspect new lines, settle disputes about railway-side landowners' right of access, and order returns to be made (all in 1841), sanction or delay the opening of new lines on the score of safety (1842), settle disputes about joint use of the same line (1843), and sanction minor deviations from the gradients and curves sanctioned by parliament (1845).

The other practical outcome was a Gladstonian distinction between past and future concessions, suggested by a select committee presided over by Gladstone in 1844. So far as concerned the past, parliament should 'take no step which would induce so much as a reasonable suspicion of its good faith with regard to the integrity of the privileges already granted, because one of the elements of encouragement to future undertakings was just and equitable dealing with those already established.' For the future, parliament should not tie its hands by any similar contract: it should give warning that all subsequently granted privileges were liable to be overridden by general acts of parliament, so that they should not be of indefinite duration, or lead to the unlimited profits of monopoly.

In Gladstone's railway act of 1844, parliament therefore solemnly reserved to itself the right to revise all subsequently granted railway acts after twenty-one years. It reserved itself two alternatives. It might purchase these lines for twenty-five times the average profit of the previous three years, together with an arbitrator's assessment of the compensation due for anticipated but hitherto unrealized profits in cases where they had not yet reached ten per cent.

Alternatively, if the dividend exceeded ten per cent., the treasury might step in and reduce tolls and charges, provided that it guaranteed a ten per cent. dividend for the next twenty-one years.

Nothing could have been more illusory than the rights which a sovereign parliament here reserved to itself. Nothing could better illustrate the extent to which parliament and Gladstone were themselves intoxicated and blinded by the spirit of the railway mania. A quarter of our now existing railway system had already been sanctioned by 1844: it included all but one of our present trunk lines. Only branch lines and secondary lines remained to be sanctioned: it was thus these and these alone that parliament reserved to itself the right of purchasing. Had parliament later been foolish enough to proceed under this statute, it would have been bound to pay a grossly exorbitant price; and in return it would not have acquired the profitable trunk lines on which the whole of the rest of the system depended. With this piece of irrelevant absurdity, the first phase in parliament's attempt to make sure that railway traffic functioned as a public service came to an undignified end. In 1867, just over twenty-one years later, the Devonshire royal commission came inevitably to the conclusion that nothing would be gained by so incomplete a measure of nationalization, especially if the re-purchased lines were then leased to operating companies, in no way different from their previous owners.

II. COMPETITION BETWEEN LINES

Already a second phase was beginning. The generation of the great amalgamations was dawning. By the end-on merger of three lines built by George and Robert Stephenson, father and son, the north-western route passed under the control of a single company, from the triumphal arch at Euston to the cotton county by whose merchants it was financed,

in the very year that the cotton lords triumphed over the landlords in the repeal of the corn-laws. At the same time the merchants of Bristol were financing, and a half-Frenchman, Isambard Kingdom Brunel, was building, a Great Western Railway, planned with the same care as the Cheltenham and Bath that it served, covering a whole vast region, and stretching out its net into the Atlantic itself, with docks and hotels and the steamship *Great Western*. In the north-east, George Hudson of York was lording it from Tyne to Humber as an uncrowned railway king. Half of the 562 petitions for railway bills submitted to parliament in 1846 were for extending the lines of already existing companies. Isolated local lines were being stitched into a national patchwork. The inconvenience began to be felt of a break of gauge between Brunel's and the Stephenson's systems, where the two met; horses got frightened, carriages were injured, goods were pilfered; a royal commission sat on the gauge, and came down heavily in favour of the old coal-truck gauge of 4 ft. 8½ ins. adopted by George Stephenson, the child of the colliery, as more economical for the country as a whole; it fitted better the sharp curves and confined space of colliery districts, was suitable for a smaller truck that could more easily get a full load, and kept down the cost of building viaducts and tunnels in undulating country. By legislating in favour of a uniform gauge in 1846, and by giving statutory sanction to a railway clearing-house in 1847, parliament tacitly recognised the advantage of through running.

Yet private bill committees acted with the utmost inconsistency. The board of trade's railway powers were transferred from 1846 to 1851 to a board of commissioners, part in and part out of parliament; and they were to report on any matter referred to them by either house of parliament; but parliamentary committees preferred to trust their own judgment on matters of principle. Thus some committees allowed extensive amalgamations, whether to facilitate through

services for the public benefit, or to economize in the cost of the engineering workshops arising in new railway towns such as Crewe, or even to sanction a regional monopoly. Meanwhile other committees allowed companies to invade one another's districts. They gave the public an alternative route to Birmingham, to Manchester, to Doncaster, to Edinburgh, to Exeter. By allowing competition with lines already sanctioned, they broke the tacit contract which had been made with the original promoters and with the public, by depriving the original line of some of the traffic-receipts that were needed to satisfy the interests of both promoters and public. They encouraged the uneconomic reduplication of lines and the over-capitalization of the British railway system as a whole. Yet even where the threat of competition was not carried out, it must have counted for much in inducing already existing companies to reduce fares and improve facilities. Capital was so abundant and so optimistic in Victorian Britain that it was not to be frightened by the fact that Britain had more miles of railway in proportion to her area, and lower gross receipts per train mile, than any other country. A potential competition between lines thus took the place of an illusory competition on the line.

It was in the midst of this development that a select committee presided over by Edward Cardwell, a member of the Peelite 'third party' reported judiciously in 1853 that, whatever might be thought of amalgamation versus competition, traffic arrangements and through running were undoubtedly in the public interest: it was less important to counteract large-scale organization than to get advantages from it when it occurred. What was wanted was reasonable facilities and no unreasonable preferences. This principle was embodied in Cardwell's railway and canal traffic act of 1854. It applied principally to the forwarding of traffic from one company by another: its aim was 'to give the same facilities for moving goods from one part of the kingdom to another over several

lines as over the same line.' It incidentally secured a small measure of equal treatment for all users ; for it meant that identical quantities of identical goods carried over an identical portion of the line under identical circumstances had to be charged the same rate. It did not oblige any company to charge equal mileage rates or give up its attempt to create new traffic and neutralize nature's distances by so fixing rates as to enable different districts to compete in a common market.

Cardwell's act turned out to be a landmark. It held out the hope of a judicial remedy for the abuse of power in particular cases. It assumed a new importance as interest shifted from the building to the running of railways, with the approach of the railway system to completion. Where statutory competition in its several forms had failed to ensure the public service, judicial limitation might perhaps succeed. The select committee of both houses presided over by Chichester Fortescue, Gladstone's Irish secretary, in 1872, therefore turned its back on what it called the myth of competition and self-interest. 'In looking back to this history,' it began, 'it is evident that the dominant idea in the mind of the public has been that competition, which is so powerful a regulator of most commercial affairs, would also suffice to regulate railways ; whilst nevertheless, by a slow and gradual process of experiment, one form of competition after another has been proved to be inadequate.'*

It went on to discuss the conflict of self-interest with the public interest in a way that made this report a landmark in the evolution of public policy.

'Can the self-interest of the companies be trusted ? Is their interest the same as that of the public ? . . .

'In the first place, it must not be too hastily assumed that self-interest will play the same part in these large undertakings which it plays in ordinary trading concerns. There is a powerful bureaucracy of directors and officers. The real

* Joint select committee on railway amalgamations, 1872. XIII. (364). i. p. iii.

managers are far removed from the influence of the shareholders, and the latter are to a great extent a fluctuating and a helpless body : the history of railway enterprise shows how frequently their interests have been sacrificed to the policy, the speculations or the passions of the real managers. On the other hand, the directors and principal officers of these great undertakings are often men of high standing, who feel that their position is something different from that of mere managers of a trading concern, and become in a certain sense amenable to public opinion, and especially to its expression in parliament.

‘ Thus, for good as well as evil, the management of railways differs from that of an ordinary trade or manufacture, and approximates in some degree to the business of a public department.

‘ Self-interest, however, still is and will continue to be the leading motive of railway companies, and it is therefore important to see how far their interest coincides with that of the public.

‘ It is the interest of the companies to develop traffic whenever the traffic will produce them profit. It is their interest to encourage new and promising traffic, even though their immediate profit may be little or none. It is their interest to foster new routes and to maintain them against existing competition ; to develop new ports or harbours ; and to promote competition between distant seats of trade or manufacture by neutralizing the distances which nature has placed between these seats and the various markets for their products. In all these cases the wealth and resources of the companies enable them to incur present loss for the sake of future advantage ; and although in so doing they may be exposed to the charge of making some parts of their system pay for others, their action is probably, on the whole, advantageous to the public as well as to themselves.

‘ But there are limits to this coincidence of interest. It is,

as pointed out by the committee of 1839-40, to the interest of the companies to make as large a profit with as little an outlay as possible ; it is therefore to their interest to carry one passenger or one ton of goods for a shilling rather than to carry two passengers or two tons of goods for sixpence each, whilst the converse is clearly to the interest of the public. Again, it is to the interest of the companies to shut up rival routes by water ; and according to some of the evidence they have, in the case of canals, sometimes succeeded in doing so. Again, it is or may be to the interest of a company not to send passengers or goods by the shortest or most convenient route, but by the route which gives the company the greatest amount of profit, and, with this object, to refuse to accept traffic from other railways at the nearest or most convenient points, in order to carry it round far longer distances on their own line ; and to time passenger trains so as to make travelling on other lines difficult or impracticable ; and, lastly, it is to the interest of the public that branch lines should be made, but it is not the interest of the company to make them unless they will pay good interest on the capital expended.

‘ It is clear that both as regards the amount of charge and the accommodation afforded, the interest of the companies does not give any such complete or sufficient guarantee to the public as is given by competition in cases where competition exists.’*

And it finally concluded on the same note on which it had begun : ‘ One thing at any rate is obvious from the previous discussion of the proposed suggestions for regulating the relations of railway companies to the public, viz., that it is difficult to provide any fixed or self-acting rules which will, through the medium of self-interest or the ordinary action of law, do what is necessary to protect the public. Consequently almost every witness, whether representing the commercial or the railway interest, has suggested the appeal to some

* *Ibid.*, p. xix sq.

board or tribunal which shall settle disputes, and in fact do what self-interest or the law itself can not do.’*

III. REGULATION BY JUDICIAL DECISION

With these words the commission ushered in a third phase in the history of the railway service. Yet the outcome of this change of front was but the pursuit of yet another illusion. Judicial control had already failed. The court of common pleas had heard complaints under Cardwell’s act for nearly twenty years ; but the number had fallen off steadily. The railway companies had employed such expensive counsel that costs became prohibitive. The court had done little to prevent unreasonable preferences, except in so far as its mere presence in the background may have lessened the need for its action ; it had done still less to ensure reasonable facilities ; and the judges disliked being called on to decide, not what was legal and what illegal, or what was true and what untrue, which was their normal professional duty, but what was reasonable and what unreasonable, which required considerable experience of railway management.

Not much good was therefore served by transferring this jurisdiction to a special tribunal by Fortescue’s railway regulation act of 1873. A first commissioner, a legal commissioner, and a railway-experienced commissioner were to sit together to hear complaints against the presence of unreasonable preferences or the absence of reasonable facilities for goods traffic. They did in fact hear one case a month on the average for the next fifteen years. They were no doubt something of a deterrent. But still the railway companies’ counsel made proceedings so dear that it was cheaper for a complainant to put up with excessive and even illegal charges rather than fight against the long purse of the companies and then be for ever afterwards a marked man for whom no reasonable

* *Ibid.*, p. xlvii.

facilities would be available. And railway charges were so varied and so confusing that the public were never quite sure whether they had a case against a company or not.*

When therefore this body achieved permanence in 1888, as the 'railway and canal commission,' trade associations were also given a *locus standi* before it, so that complaints should no longer be restricted to the very biggest firms. Conciliation clauses were also introduced: trade associations or local authorities might get the board of trade to take up complaints with the company and negotiate on their behalf. And the composition of the tribunal was changed, though not for the better: a high court judge of the new high court was to preside, and the two lay members were to be subordinate to him.

By 1888, however, it was clear that judicial decision was as ineffective as competition as a guarantee of public service. Judicial decision was therefore supplemented by statutory rate-fixing.

IV. REGULATION BY STATUTORY RATE-FIXING

The landed interest had begun to suffer from the importation of American corn. And heavy industry was beginning to meet with continental competition. They clamoured for better facilities and lower charges. To some extent they got what they desired; railway companies began, for instance, to help the wheat-grower to take refuge in dairy farming by carrying milk and other perishables to town by passenger train. But farmers objected that charges for carrying farm produce had seldom fallen as much as many others; that some still stood at the statutory maximum; and that some had risen even above the maximum through the addition of extra-legal terminal charges. And farmers thought it unreasonable of railway companies to carry their competition with sea-borne traffic so far as to carry foreign produce from

* (Ashley) select committee on rates and fares, 1882. XIII. (317).

the coast for less than home-grown produce from the inland districts through which it passed. The act of 1888 therefore ordered a new classification of charges and a new schedule of maximum charges.

The first step was the somewhat hurried preparation of such a classification and schedule by the companies. This the president of the board of trade, Sir Michael Hicks-Beach, refused to accept. It was then the board of trade's turn to draw up an alternative classification and schedule. This duty it delegated to Lord Balfour of Burleigh and Sir Courtenay Boyle, commissioning them to hold a public inquiry by counsel and then draw up their alternative proposal. In making their draft, they had a completely free hand; for in committee in 1888, the agricultural interest in the House of Commons had deleted the unionist government's proposal that the new maxima should merely be clarified and codified round about the level of the old. The commissioners used their freedom for reducing the maximum rates. They assumed that the old statutory maxima were quite irrelevant, as they had been based on canal tolls with the addition of the charges made by carriers in the pre-railway age. They assumed on the other hand that the rates actually arrived at empirically by the companies were those that really answered to railway experience. New maximum rates were therefore fixed round about the rates actually charged. Sometimes they were put a little lower, when actual rates seemed unreasonable. Sometimes they were set a little higher, so as to allow a margin for an increase if ever the cost of working the railways should rise. The new maxima were embodied in provisional orders, adjudicated upon by joint select committees, and confirmed by parliament in 1891-92. The railways thereupon recouped themselves for the small loss they had suffered, by raising their actual rates at once to the new legal maximum. This produced an outcry; for it fell in the midst of a depression; and it fell with especial severity

on agriculture, the railway rates for which could usually be raised without any risk of competition by water transport. By then a general election had returned a liberal majority. Discontent crystallized in the report of a select committee. And Mundella's railway and canal traffic amendment act of 1894 empowered the railway and canal commission to hear complaints that an increase in rates was unreasonable even though it might be lawful. In short, the railway companies had said that the legal maximum should become the actual rate: parliament had retorted that the actual rate should become the legal maximum, except in exceptional and unforeseeable circumstances. The control of the railway companies over their own rates was thus limited by the potential veto of this special tribunal.

So rigid a regulation could not meet all needs. During the next twenty years therefore the influence of the government over railway management tended to increase. The board of trade became a general mediator and conciliator in what was now becoming a triangular tussle between the interests of capital, labour, and the user. It intervened to prevent a strike in 1907: it arranged a conference between railway companies and railway users in 1908. The evolution of a habit of three-cornered regulation was to mark the way towards the fifth phase in the history of British railways.

War interrupted and nearly prevented this development. At midnight on August 14th, 1914, the government took over the railways under the regulation of the forces act passed by Gladstone in 1871 under the influence of the Franco-Prussian war. Under this act, the government would have had to allow compensation for any losses incurred by the companies to be fixed by arbitration in accordance with the lands clauses act, unless they were able to arrive at an agreement. Such was their fear of arbitration that they committed themselves to a very generous agreement: the railway companies were guaranteed the continuance of the net receipts of the boom

year 1913, so long as the war should last. These were above the average for the three years 1911, 1912 and 1913. This made no allowance for the difference between losses due to government control and losses due to a possible falling-off in trade in war-time. And in order to encourage the companies to raise wages and avert a strike in the middle of the war, this guarantee was later extended to cover the first two years after the peace. Thus for the seven years 1914-1921 railway shareholders were put in a privileged position unknown to those of most other public services: their dividends were made immune from the ebb and flow both of trade and traffic and of labour costs.

The other great experiment of the years 1914-21 was for the government to delegate its powers to a railway executive committee, formed of the most important general managers. In law the government might be in possession of the railways; but actual operational control was exercised on the government's behalf by a committee of their former managers. Here was a device for facilitating through running and minimizing competition. And here was also a change of principle: the managers were now freed from all consideration of profits and dividends while running the railways as a national defence service.

An organization along these lines seemed likely to survive the war. For in 1919 a bill was introduced which would have established a ministry of ways and communications with power, not only temporarily to acquire all railways, canals or docks, but also to buy them by order in council. Nationalization came up, however, against the organized opposition of railway users, on both theoretical and practical grounds. As a matter of theory, it savoured of bolshevism. As a matter of practical experience, national control left railway users hampered in the post-war boom by congested docks and an insufficiency of railway waggons. So the purchase clauses were dropped in committee in the House of Commons. The

RAILWAY TRAFFIC

pompous title 'minister of ways and communications' was cut down to 'minister of transport' in the House of Lords. And in the interest of the users the classification and increase of railway charges during the period of temporary government control was referred to a rates advisory committee that was made independent both of the ministry and of the companies.

V. REGULATION BY JUDICIAL RATE-REVISION

When at last the period of governmental control and guaranteed profits was about to expire in 1921, a new railways act was introduced by Sir Eric Geddes, the pre-war deputy-director of the North-Eastern Railway, who had acted during the war as Inspector-General of Transportation in all the Theatres of War and had now taken charge of the new but truncated ministry. The railway companies were grouped into four great mergers, in the hope that this might make for more efficient service, if not for economy. But their managements were subjected to regulation from outside on behalf of three categories of persons.

On behalf of railway-users, provision was made for the regular annual review both of all railway freight-charges and of all passenger-fares, by a new railway rates tribunal composed of legal, trading and railway experts to be appointed on the advice of the lord chancellor, the board of trade, and the minister of transport. On behalf of railway shareholders, the basis on which these rates were to be fixed was defined: 'The charges . . . shall be such as will, together with other sources of revenue, in the opinion of the rates tribunal, so far as practicable, yield, with efficient and economical working and management, an annual net revenue (hereinafter referred to as the standard revenue) equivalent to the aggregate net revenues in the year 1913 . . . together with . . . such allowance as appears to the rates tribunal to be reasonable in

respect of capital expenditure on works . . . which had not at the beginning of the year 1913 become fully remunerative.' And in the interest of railway labour, elaborate representative machinery for conciliation was set up.

Hardly had this delicate triangular balance been erected when it was exposed to two unexpected strains. The one was the post-war contraction of the heavy industries that were the railways' best goods customers; and to enable them to reduce their charges for iron and steel and coal, three quarters of their local rates on 'freight transport hereditaments' were remitted from 1929.

The other strain was the rise of motor traffic. Competition threatened in the 1920's to overwhelm regulation. To some extent railways took up the challenge, granting exceptional rates to a large part of their goods traffic, closing the least remunerative of stations and branch lines, and making the most of their capacity for speed with local rail-motors, suburban electrification, and long-distance streamlined expresses. And to some extent they also adapted themselves to new needs and opportunities, getting on the road themselves, first illegally when they used old army lorries to relieve railway congestion at the end of the war, and then legally under a series of permissive private acts passed in 1928.

Before the railway rates tribunal could even begin to strike a just balance between the rights of users and of investors, these two strains had to be mitigated. A revival in heavy industry was needed. And road traffic would also have to be restricted. Only when these two changes set in did a rise in fares and charges, and in wages, become possible in 1937.

In the unforeseen vicissitudes of this half-generation, the user would seem then to have gained more from road competition than from the adjudication of the railway rates tribunal. The ordinary shareholder has lost from changing circumstances as much as the user has gained; so far from deriving slightly more profit than in 1913, he has consistently

received considerably less. And much the same might be said of labour.

Nor has the rates tribunal itself been exempt from all the defects of its more formal predecessors. Unlike those lower tribunals that have provided themselves with probation officers, it has evolved no independent means of collecting information. And a hearing in 1937 that lasted three weeks and cost £100,000 showed that the new rates tribunal is not necessarily either speedier or cheaper than the old railway and canal commission.

The 1921 principles, like all other railway principles, have had to be tested in circumstances to which they were never intended to apply. And it is small wonder that they have proved irrelevant.

VI. REGULATION BY TRAFFIC CO-ORDINATION

It was the railways themselves who by their very nature first prevented the free functioning of a competitive price system in the carriage of goods and passengers. It was because of their own monopolistic rate-fixing and arbitrary rate-cutting that one form after another of public regulation has been tried out upon them. Now, in the 1930's, true to their own past, they have called in the devil of regulation to cast out the recrudescient Beelzebub of competition.

The railway remains the public service in which the greatest amount of capital is invested. Without the help of a government guarantee it is ceasing to be able to attract new capital. If it contracts its service in order to make both ends meet, it lessens its utility as a service from anywhere to anywhere. Other forms of transport may supplement it; but no other form of transport is yet able to replace it. So it is inevitable that in the present phase of development the most natural tendency should be towards some sort of regulation and co-ordination that may save the railways, for the present at least,

from submitting in their turn to the bankruptcy that they brought upon the turnpike trusts.

The anarchical individualism of the railway pioneers of one hundred years earlier made them the dreaded Napoleons of the economic world. Now that they are more competed against than competing, experience has converted their successors in the petrol age to the ethical and economic superiority of the good committee-man.

Yet in planning the co-ordination of carriage, these giants are well placed for playing the part of supreme co-ordinator. They took to the water when they built docks and harbours and bought steamships and canals one hundred years earlier : since 1928 they have taken to the road and since 1929 to the air. They have staked out a claim in the camp of almost every possible enemy. They are able as no others are to discuss with others not as equals but as the first among equals. It is their fate, and ours, that they should be universal carriers or nothing.

Within the hundred years of their existence the British railways have thus been driven towards some half-a-dozen different destinations—competition on the line, competition between the lines, regulation by judicial decision, regulation by parliamentary rate-fixing, regulation by judicial rate-revision, and regulation by traffic co-ordination—without ever once finding the way clear on the line along which contemporary opinion has signalled them.

CHAPTER IV

CARRIAGE OF GOODS AND PASSENGERS

I. ROAD TRAFFIC

FOR one hundred years the history of road traffic has been governed by mechanical traction, first in the form of the railway, and then in the form of the motor.

One hundred years ago the railway drew all long-distance passenger traffic off the road. The nobleman who had paid 2/- a mile for posting with a pair of horses, could now travel first class for 2d. The gentleman who had paid 4½d. a mile for a seat inside a coach need now pay only 1½d. for second-class accommodation. And the man who had paid 2½d. a mile for a perch on the outside of the coach could now go third for 1d. The railway was also glad to fill its trains and keep them running, even though they made no adequate contribution to the cost of the permanent way. Rowland Hill taught the Brighton line to run excursion trains ; season tickets and workmen's tickets, party tickets and cheap return tickets, followed. The railways thus succeeded in attracting new classes of traffic that the roads had never known. They called a new travelling public into being.

Similarly with goods traffic. The wisest common carriers on the road sold their inns and coaches and horses, put their money into railways, and began a new career as railway directors or railway parcel agents. The amount of long-distance freight traffic for railways to capture from either highways or waterways was not large. They were indeed somewhat surprised when it grew so rapidly upon them that they had to set up a clearing-house in 1842 and get the protection of the carriers' law in 1845. Before long the railways were drawing a bigger income from goods than from passengers.

TRAFFIC AREAS
1930 and 1933



And much of this traffic was of their own creation. By cheapening carriage facilities they stimulated a new demand.

Road traffic was speedily superseded by railway carriage on the great trunk routes. On cross-country routes its supersession was more gradual. And the rise of railway traffic must itself have called forth a considerable crop of local feeder services at country stations. Road traffic might have been expected to adopt steam traction ; yet only the iron railway with its time-table and its signal-boxes could enable full advantage to be taken of the steam engine's capacity for speed and for hauling long trains of waggons. This economic consideration was enough to keep steam carriages off the road, except in the significantly slow and cumbersome form of the steam roller and the traction engine. And, in case economic considerations should not prove enough, a horse-loving parliament made it illegal in 1861-65 for mechanical traction to reach more than four miles an hour on the road—a speed limit that was raised to twelve miles in the light locomotives act of 1896 and twenty miles in the motor car act of 1903, when the internal combustion engine was beginning to make mechanical traction on the road into a financial proposition.

This birth of the petrol motor meant the re-birth of road traffic. And in all its three manifestations—private traffic, passenger service, and goods haulage—this called for the paternal solicitude of the state on behalf of the public safety, the public service, and the railways' finance.

The private motor car and motor cycle have added to the convenience of British life. They have not become so numerous in proportion to the population as in the new English-speaking countries overseas whose greater area has prevented their being covered with so close a network of railways. On the other hand, they have become far more numerous than in those countries of central and eastern Europe where a substantial middle-class has either not arisen or has been proletarianized by the post-war depreciation of its

currency and the annihilation of its savings. Between these two extremes, Britain, like France, has taken up a middle position in the ratio of cars to population. But in the ratio of cars to its total area, England has become unique among the great powers. It is in this uncommon density of the car population that a large part of the private-car problem is to be found. The advantage of the car, moreover, has lain not in cheapness but in convenience. It has provided unrivalled facilities for door-to-door transit in our towns, and for taking the townsman into the country during his leisure. It is only as a mere by-product that the car has entered into substantial competition with the railway on longer journeys. Control has been needed not for the sake of the railway but on behalf of the general public in the crowded streets of urban Britain. This problem of public safety has rarely been treated as a road-making problem except on the outskirts of towns. It has been treated rather as a traffic-control problem. Signs and signals have been evolved, as on the railway, where traffic streams converge. Speed limits have been enforced in built-up areas. The manufacture and supply of motor-car parts has been regulated. Insurance against third-party risks has been made compulsory. Car-parks have been provided in order that the highway may be kept clear for traffic. New duties have been thrust upon the police. A highway code of good manners is being grafted on to the law of the land. And the driver's licence is being transformed from a permit to a certificate of proficiency. Meanwhile small-scale enterprise has found a new opening in petrol-stations, driving-schools and tea-houses such as it found once before in smithies, riding-schools, and inns. The internal combustion engine has restored to the unprofessional driver something of the independence that belonged to his great-grandfather in the day of the horse. But instead of having the horse's intelligent co-operation he is now the master of his own and other people's fate to an extent never known before. It is in this sudden

democratization of mechanical transport in an urban land that the crux of this still unsolved riddle lies.

A second road-traffic problem has been that of the 'public-service vehicle.' The licensing and regulation of these 'motor vehicles used for carrying passengers for hire or reward' was inquired into by a departmental committee presided over by Brigadier-General Sir Henry Maybury of the ministry of transport between 1922 and 1925. Its report was followed up by the drafting of a road-traffic bill by the ministry in 1927. And after this had received the blessing of Sir Griffith Boscawen's royal commission on transport in 1929 it became the basis of the road traffic act of 1930. The chief ground for this new legislation was that mere local licences for public-service vehicles had become inadequate, now that short-distance horse-drawn buses and wagonettes has given place to comparatively long-distance motor buses and motor coaches. The country was therefore mapped out into thirteen traffic areas. Each area was to have three area traffic commissioners, of whom the chairman was to be appointed for a long term at a high salary, while his two colleagues were to serve for a short term without pay and be chosen from panels drawn up by the local authorities within the area. An average of one hundred municipal authorities would be relieved of licensing duties by each of these commissions. Licences would be issued for each vehicle, for each road service, and for each driver and conductor. Each public service vehicle was to be licensed for one of three purposes. It might be a 'stage carriage' such as a bus, that stopped to pick up passengers and set them down all along its route, and charged each of them a fare of a penny or two for each short stage along that route. Or it might be an 'express carriage,' such as a coach on some regular line, that did not stop so often or charge so little. Or it might be a 'contract carriage' chartered as a whole to carry more than a certain number of passengers—a 'tramp' of the road, when

compared with the regular 'liners.' The commissioners were to refuse licences that they thought likely to lead to rate-cutting. The result must have been to restrict fresh enterprise upon the road, bar the small man from entering the service on his own account, consolidate the financial position of the firms already engaged in this traffic, and limit the quantity of competition to which the railways were exposed. While the passenger has stood to lose from the diminution of rate-cutting and the emergence of monopolies in some areas, he has stood to gain from the improved financial position of the carrying firms.

A third and last problem has been that of goods traffic. Of this there were two kinds. There were the lorries of the road hauliers, the public carriers or 'tramps' of the road who were prepared to contract with any one to carry his goods for hire or reward. The selling-up cheap of ex-army lorries after the war had enabled a flood of ex-service men and others of small resources to take to the road at a time when the railways were dislocated by traffic congestion and labour unrest. In the chaotic rate-cutting that followed, survival went indiscriminately to the longest purse or the longest hours; it must often have been a choice between overwork and going under. For this new development England offered an unrivalled field: she was a land of peculiarly short hauls, her population was concentrated about her great ports, her new light industries were clustering around these urban agglomerations, and her home market was expanding more rapidly than her foreign trade. It was this competition by which the railways felt themselves to be specially hit. The Boscawen royal commission adopted the point of view of such goods-transport employers and employees as were organized, and pronounced in favour of licensing road hauliers and insisting on fair wages. The chief obstacle lay in the existence of a second and more numerous category of commercial road user—the trading firm that ran its own delivery-vans

or retained the services of some definite contractor. These private local carriers objected to any restrictive licensing ; nor would this have seemed desirable, even for the sake of the railways, had it not been reported that in some American states the attempt to restrict the number of public carriers, without a corresponding restriction of private carriers, had led to an ominous increase in the number of trading firms that took to running vans of their own which were only more-or-less private. One easy way out of the dilemma would have been to rely on heavier taxation of goods vehicles in general as the simplest way of restricting their number ; this fitted in with the idea that goods vehicles, at least, ought to pay the whole cost of the wear-and-tear that they more than other users inflicted on the road ; and it found favour in the eyes of the railways in the conference on road and rail transport presided over by Sir Arthur Salter in 1932. This might have proved simpler. Instead of this, the new licensing system devised for public service vehicles was extended to all goods vehicles without exception in the road and rail traffic act of 1933. The area licensing authority was to be the salaried chairman of the area traffic commissioners. He might grant an ' A licence ' for public carriers who contract as road hauliers for hire or reward, or a ' B licence ' for the private carrier using motor vans ' for or in connection with any trade or business carried on by him,' or a ' C licence ' for ' limited carriers ' who use their motors mainly for private and only to a limited extent for public carriage. All licensees were to keep records of loads carried and hours worked. And, as with public-service vehicles, the licensing system was to pay for itself out of licensing fees. The net result may well have been to compel all carriers to make the fullest possible use of their limited number of vehicles ; to endow them with a greater chance of financial stability ; to facilitate combination ; to hinder competition by new firms ; and to restrict road haulage to dimensions that belonged more properly to the

deep depression of 1933 than to the boom that followed.

Such rough and ready co-ordination as has so far been achieved between road and rail in Great Britain would seem to have come either from the railways' control of the biggest haulage firms or from the outside dictation of the licensing authority ; nor is it easy to see how it can grow from within, unless and until the road hauliers find it practicable to throw up some form of representative body capable of co-ordinating charges. Alternatively, all carriage of goods and passengers by road might be unified under a public body, and its receipts pooled with those of the railway companies, as has been done by the Northern Ireland road transport board since 1935.

II. WATER-BORNE TRAFFIC

Canal companies, like river navigations and turnpike trusts, were originally empowered to levy toll on traffic, but not to act as carriers. All carriage on inland waterways was in the hands of traders of one sort or another. Some were local colliery-owners or ironmasters or potters, who often happened incidentally to be interested in the waterway as shareholders. Others were by-traders who contracted to act as general, or as iron, carriers.

Railway competition must have been a worse menace to these independent local carriers than to the canal company. For the statutory company was usually strong enough to arrange good terms with its new competitor, whereas the carriers had to put up what struggle they could, often with the odds against them when the railway company acquired the waterway and either closed it or levied prohibitive bar-tolls on all boats that crossed from one canal to another.

Parliament was more interested in the fate of the canals than in that of the carriers. For the permanent way represented a great capital investment, and one which could never

be got together again now that canals had ceased to be attractive, whereas most traders found a railway truck more economical than a boat, while the by-traders were small men who abounded in number and were poor in parliamentary influence. The canal companies might be allowed to gain on the swings of carriage what they lost on the roundabout of toll, much as the railways were doing. Parliament therefore enacted in 1845 'that greater competition, for the public advantage, would be obtained if similar powers were granted to canal and navigation companies.' Henceforward the canals and river navigations had permission to act as carriers. Carriage was being treated as a public service—a service that called for the intervention of authority—not for its own sake but for what it could contribute to the stability of the company that financed the permanent way. This permission was used by a few canals, including some that had passed under railway control. The Aire and Calder navigation has even evolved its own peculiar type of conveyance in the shape of a train of floating coal-trucks hauled by a steam tug. But there were two obstacles to the general adoption of this permissive act. The canals were unlike the railways in that it was more difficult for them to prevent other carriers from competing with them on their permanent way. And they were unlike the railways in that they were less frequently in control of the whole route over which goods were carried.

Such canal traffic as remained was seldom more than local. But by the beginning of the twentieth century it was becoming obvious that inland centres such as Birmingham were at a disadvantage. The sea ports were better placed both for making up imported raw materials and for feeding those who made them up. A demand arose for through carriage over some cheaper route than rail. It thus became a tempting proposition for the canals between London and the Midlands to unite and act as carriers on their own canal. But the rise of the petrol-driven motor has not only quickened canal

traffic: it has also enabled the demand for a cheap alternative to railway carriage to be more fully met, to the advantage of a far greater number of districts, by road traffic than by inland waterway.

Coastwise shipping has had fewer disadvantages. The capital outlay on a coaster, as on a barge or coach or lorry, has been small. The coaster has run no risk of having its permanent way taken from under it, and it has had to pay nothing but light-dues for its use. From the very first it was able to compete with the railway for long hauls. The introduction of the steam screw collier about 1850 enabled it to achieve regularity and retain an important place in the historic 'sea-coal' trade between Tyne and Thames. The new dependence of British industry on overseas trade confirmed the medieval tendency of the British people to congregate within easy distance of tidal water, so that it was possible for the chairman of a dock company to tell the joint select committee on railway amalgamation in 1872 that 'the sea is a competitor at pretty nearly two-thirds of the principal places in the kingdom.'^{*} And the House of Commons helped to keep this competition alive by adopting a standing order against a railway company acquiring harbours or steam vessels except in very special circumstances.

Coastal services have come up, however, against a number of important obstacles to their expansion. The railways had the great advantage, in supplying the domestic as distinct from the industrial demand, of being able to carry to each coal-agent a mere truckload of each different kind of coal instead of a whole boatload of one single sort. The railway also had other traffic income on which to draw to cut freights in competing with coastal colliers; and every successive arrangement for through running seemed to make this more worth its while. But the greatest difficulty has perhaps arisen from the fact that coastwise makes up, in its dependence on terminals,

^{*} *Loc. cit.*, Q. 3696.

for its independence in regard to the permanent way. The silting-up of the smaller harbours has confined it to the growing sea ports. And not all of these are made for coasting vessels. Thames and Tyne have remained true to the coastwise habit that they contracted in the days when coastwise coal had no rivals ; dating too from the days before docks, they have conserved the habit of transshipment to or from the barge or coaster, which saves time by enabling an ocean-going ship to be loaded and discharged on both sides at once, overside as well as on the quay. Not so the Mersey with its closed docks that did not grow up until they had to meet an ocean traffic in an age of transshipment by land, and especially by rail. London's coastwise traffic has thus proved exceptionally invulnerable, except in war time when its exposure saved it from the good fortune of being taken over and paid for by the government like the railways and canals.

Thus the total entrances and clearances of coastwise for the whole kingdom might decline from 45 to 35 million tons between 1913 and 1928 ; but the port of London's coastwise traffic remained constant at 15 million tons. And since then it has grown by more than one-third in response to the Electricity Commission's policy of choosing river-side sites for new power-stations, in order to give this expanding public service an alternative to railway carriage for its coal. It is in this new way, rather than in keeping up the small harbours that have had their day, that public action has treated the continuance and prosperity of coastwise shipping as a matter of public concern.

III. OVERSEAS SHIPPING

No government of an industrial state would do its duty by industry if it did not do all in its power to make transport as cheap as possible. Different generations might choose

different means ; but the end must remain the same so long as the country remains industrial.

The means chosen by the British government, parliament and public, in the mid-nineteenth century was competition. This policy was followed even when legislation was needed for the building of expensive inland railways. With how much more reason then was it pursued on the high seas where British law did not run and no highway needed laying. The East India Company lost its monopoly of the China trade in 1833, when Palmerston assumed responsibility for protecting any British shipping, whether its cargo was cotton goods from Liverpool or opium from Calcutta. Nor was it only British shipping that was free to compete for British trade. The flags of all nations were welcomed to British ports. The freight market of the whole world was open to the Manchester men. And, except for the enforcement of safety regulations, that unlimited freedom of competition was almost all that interested authority.

In the free and unhampered evolution of the steamship, two tendencies soon became apparent.

By 1840 steam was making it possible to cross the ocean to time-table. Regular 'lines' were being organized of steamships that sailed on the advertised date, and arrived at their destination punctually, whether their cargoes were heavy or light. At first, some of these lines were substantially helped by government mail packet contracts ; but on all lines that would have run regardless of the post office, these were gradually modified so that they became closely negotiated bargains rather than subsidies. Liners had to sail under their own and not under the post office's steam. In the keen competition that developed, many a line tried to bind its best customers to it by offering a loyalty rebate of one or two shillings in the pound on condition that the shipper used no other line. When this made competition keener, the liner firms began to come together in conferences. First came the Far Eastern

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lines, soon after the opening of the Suez Canal, beginning with the Calcutta trade in 1875 and proceeding to the China trade in 1879 and the Australia trade in 1884. Next came the South Atlantic lines, beginning with the South Africa trade in 1886, and spreading to the West Africa, the Plate River, and the North Brazil trades by the mid-'nineties. Shippers of outward cargoes were tied to the conference lines, by being offered a deferred rebate for each period of loyalty, and by not being paid this rebate until a further period had elapsed. A royal commission on shipping rings reported in their favour in 1909: they made for the financial stability of the lines. An imperial shipping committee was no less definite in 1923: 'There is a clear mutual obligation,' it reported: 'the shipper wants the ship on the berth, and the shipowner wants the goods on the berth without fail.'* South African law made the deferred rebate illegal; but it legalized an exclusive agreement instead; and on some trades the shipper has been allowed a choice between the two forms of tie. Among North Atlantic lines, which relied mainly on passenger traffic, competition for cargo was too keen to allow of much combination; but here the British government has been able to use subsidies since the war as a lever for the mitigation of rivalry.

Twenty years later than the liner, the tramp made his appearance, when hydraulic engines had become sufficiently economical of fuel to leave space for the bulky cargoes that were now coming into ever-increasing demand. It could seldom be sure how long it would have to wait for a full cargo, or to be chartered. Its trade was apt to be seasonal or cyclical. It would lay up or sell cheap during the long years of depression, and reap its owner a rich harvest during the few short years of boom. Less capital was needed for launching out in the tramp business than for running a regular line. And combination was all the harder to come by. The

* 1923. XII. i. [1802]. p. 19.

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unprecedented depression of the 1930's threatened to drive their freights so low that even a subsequent trade revival was hardly likely to yield enough for replacements. It was then and then alone that tramp owners were driven to confer together in a 'tramp shipping administrative committee,' under the stimulus of a subsidy paid by the Treasury from 1935 to 1937.

Thus in tramp shipping as with liners, a hundred years of change has led to a reversal of policy; and state-patronized combination has taken the place of state-encouraged competition as the appropriate means of assuring manufacturers and merchants that they will be sure of ships for the carriage of their wares across the ocean.

IV. CIVIL AVIATION

Civil air transport has been for Britons primarily a means of international communication. For in this island there are no such vast distances to be covered as in America, Australia or U.S.S.R.; most of our principal towns are within twelve hours' journey of one another by rail. And the low cloud and mist of this damp land have not made for safety in the air. But when sea has to be crossed as it must be by every traveller from Britain, the speed and convenience of air travel become a greater gain. The Channel in fact proved as great an incentive to British aviation as the prairie and the desert to that of other countries.

In the 1920's the British air services were mainly to the continent of Europe. The companies that started the first cross-Channel services, with ex-warplanes, from Croydon to Le Bourget and Brussels in 1919, went under in the depression of 1920-21, leaving their subsidized French competitors in sole enjoyment of the route. A policy of subsidies was therefore evolved. In the emergency of 1921 a percentage was added to the companies' gross receipts; in 1922, following

the report of Lord Londonderry's cross-Channel subsidies committee, this percentage was varied according to the load carried, so as to encourage the companies to carry as much as possible ; later in 1922 it was based on the mileage flown, so as to induce the companies to cover as much of Europe as possible ; and in 1923 this was varied according to the horsepower used, so that the mileage might be covered as efficiently as possible.

The subsidy meanwhile could be made to go farther by not being frittered away on too many competing services. The three subsidized companies were first brought to a working agreement, and then completely merged in a single subsidized company, Imperial Airways Ltd., early in 1924, after the publication of the Hambling civil air transport subsidies committee's report. Imperial Airways had of course no legal monopoly and no guarantee that it would remain the only recipient of state subsidies. But it was clearly in a privileged position. Its subsidy was to be scaled down only very gradually between 1929 and 1939 ; and before it expired it was reinforced by subsidy contracts with the post office. In return for this substantial subsidy, the air ministry received two seats on the board, an assurance that all directors and machines should be British, and a nominal holding of deferred shares, which carried with them, however, a controlling interest whenever questions of British control arose. There was thus nothing to prevent the company from aiming at a ten per cent. dividend, which it is now well on its way to reaching ; and not till then will the government share in the profits made possible by its subsidy.

The annihilation of the Channel was only the first of the British needs to be met by civil aviation. The next, for the British as for the Dutch, was the annihilation of the ocean spaces between the various countries of the commonwealth and empire. Thus the subsidy agreement of 1929 provided for Imperial Airways to run a weekly service to India as well as a daily one to the continent. Inter-imperial aviation,

however, was envisaged by British governments as being mainly a task for the airship, until official experimentation in lighter-than-air dirigibles was brought to an end on the destruction by fire of the R 101. It was only then that the way was opened for the company's flying boats to achieve something like a monopoly, on routes along most of which there was but little initial probability of dominion or foreign competition. Imperial Airways became imperial in interest as well as name. And its European services, run in conjunction or competition with foreign rivals, ceased to be its chief concern.

Internal airlines developed later than either cross-Channel or trans-oceanic lines. Not till streamlining and high speeds were developed in the 1930's was there much demand for an internal air service running to schedule. Many pioneering companies failed. Others struggled for survival by making arrangements with the railway companies, which had been authorized in 1929 to run air as well as rail and road services, as part of their new policy of engaging in every type of transport, and which did in fact set up Railway Air Services Ltd. as a joint subsidiary with Imperial Airways. These expensive experiments showed that those services paid best which flew across the water to the Channel Islands or Ireland or the Scottish Isles. They showed too that regular internal air lines might be most easily made to pay if they were to radiate from a junction aerodrome situated at some point equally central for all the British Isles. And they suggested also that the working of such a plan would be most likely to pay if some one company was licensed to operate it, without however putting any obstacle in the way of other companies in search of other routes.*

It is clear, however, that official solicitude for this new form of transport arises as much from defence-service as from public-service considerations. The air council, it is true,

* [Maybury] civil aviation in U.K. committee, 1937. [5351].

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took for some years a broad view of its opportunities. In return for its civil air transport subsidies, it has not stipulated for the incorporation of specifically military details in the structure of aircraft, any more than its capitation subsidies to light aeroplane clubs have carried any restrictions on sex or age. It has even claimed that it has taken a broader view than the Admiralty in the years before the war when its subsidies to the Cunard line were conditional on their ships being built for use as auxiliary armed cruisers in war-time. It has been content to use any and every means for promoting air-mindedness, flying skill, manufacturing technique, and, above all, the investment of capital in manufacture. The air ministry has strongly resented and resisted every proposal for transferring the directorate of civil aviation to a civil department; civil aviation has remained under the ultimate control of a defence authority, the air council, of which the director of civil aviation has not been a member; and when peace became precarious, the making of warplanes became a first call on the manufacturers for years on end, with the result that Britain failed to keep pace with the United States and Germany in developing a civil aircraft manufacturing industry capable of export or even of supplying the needs of the Imperial Airways services to the continent.*

V. LONDON PASSENGER TRANSPORT

(1) *The Traffic Phase*

When towns were small, most urban passenger traffic was foot traffic, whether the pedestrian walked along the miry streets and alleys on his own feet or paid to be carried in a Sedan chair. And if greater distances had to be traversed, as from London to Westminster, the Thames offered a smooth

* [Gorell] private flying and civil aviation committee, presented to parliament with a refutatory memorandum by the secretary of state for air, 1934. ix. [4654]; also questions and debate in house of commons, October-November, 1937.

highway on which the company of master watermen enjoyed a monopoly of passenger transport, while their colleagues the lightermen monopolized the local carriage of goods, from about 1500 to 1859.

Gradually, however, the built-up area of the town expanded. Country lanes became urban streets. A private member, Michaelangelo Taylor, obtained a metropolitan paving act in 1817, to set up a paving-board in every parish—seven boards along the Strand's two-thirds of a mile. The city of London levied a coal duty and applied the rising rents of its landed endowments to the making of roads and bridges. Commercial companies built Waterloo bridge to Rennie's design, and paid the Brunels to build the first Thames tunnel. The metropolitan board of works, set up in 1855, spent millions mildly imitating Hausmann with such street improvements as the cutting of Queen Victoria Street and Shaftesbury Avenue and the erection of the Embankments. Crown lands from Trafalgar Square through Regent Street to Regent's Park, church lands from Bond Street to Paddington, noble-men's entailed estates from the Russells' at Bloomsbury to the Grosvenors' at Westminster, were marked out into streets and squares and let on building leases. Men of affairs lived further from the City, further from Westminster, further from the river. They must cover the ground on wheels. They soon ceased to tramp on foot night and morning, between their home and their work, as Lord Chancellor Eldon, for instance, had dared to do between Bloomsbury and Westminster even when he made himself dangerously unpopular by the repression of 1819. By 1850 it was not even necessary to build mews to the newer town houses; for hansom-cabs were coming in, to supplement the private carriage; and the home secretary began to regulate the hire of cabs under the metropolitan public carriage act of 1869. And for those that could afford neither cab nor four-in-hand, bus, tram, and underground were introduced.

First among these services, the omnibus was introduced by Shillibeer, an English coachbuilder from Paris, in 1829. One hundred pounds would buy an omnibus, and two hundred pounds the ten horses that took turns in running it. Competition soon brought fares down. Combination then prevented their falling lower, and recognized each proprietor's vested interest in his 'times' although he had no more legal right to them than a newsvendor to his pitch. In 1855, during the Crimean War, the *Compagnie Générale des Omnibus de Londres* was registered at Paris, as a *société de commandite* with a capital of twenty-five million francs; and within twelve months it had bought up six hundred out of eight hundred buses, along with their horses and their 'times'; and the English law of limited liability had to be made more liberal before the London General Omnibus Company could be registered at London.

It was partly in an attack on the horse-bus monopoly that the horse tram invaded the streets of London. Horse trams had long been used for moving coals at Tyneside collieries and for carting dung on farms. They were now adapted to the use of passengers. Each horse drew three times as many passengers along an iron tramway as he could have drawn along a cobbled road. New York and Philadelphia and Paris had their street railroad companies by 1860; and George F. Train introduced the tram from America to London in 1861, when London's first two companies laid lines from Marble Arch along Bayswater to Notting Hill, and from Westminster Bridge to Kennington Park. But the tram differed from all other public service vehicles in that it needed a special track, and for this it required a large capital; but once it had got its track it could carry a greater load at a lower price, and it could not be faced with competition from other trams. For all other passenger traffic, public authority had only to make up the common highway, enforce prompt service, and prevent extortionate fares; but the tram had no such common-law

right of way as the bus or the cab, and for the right to its track it was at the mercy of the public authorities. The first local permits to run a tram-track along a parish highway were speedily withdrawn; the limited liability law that was enough for a bus company did not provide adequate protection for a tramway undertaking; and the only way for a tramway company to get security of tenure for its track was to get a private act of parliament. In the general tramways act of 1870 this first tentative private legislation was crystallized into an evenly balanced compromise. The tramway company now became liable for road-maintenance between its rails and for eighteen inches on either side; for it was here that its horses or mules were likely to wear out the road. It became liable to expropriation by the local authority, twenty-one years after it was sanctioned, and thereafter at every interval of seven years, at the then market value of its physical assets; it thus became sure that its permit would not be arbitrarily withdrawn. And local highway authorities were empowered to lay tram tracks themselves as part of the highway, and to lease them out, though not yet to run trams themselves. It was only when some provincial municipalities failed to find a lessee on good terms that private acts were obtained, from 1882 onwards, under which a municipal corporation might be allowed to operate its own tramways. But a town divided among so many authorities as London was ill-fitted for developing a complete tramway system. The noise of the tram was resented in the more fashionable parishes. The absence of walls to be pulled down for the making of boulevards left London with roads that were too narrow for an efficient tramway service. The City and West End were thus left untouched by the tram. And London remained, alone among the great cities of Europe, a metropolis of buses.

In an age when the iron rail was making transport both cheaper and more rapid, it was natural that the railway itself should find a part to play in meeting urban passenger needs.

CARRIAGE OF GOODS AND PASSENGERS

A royal commission on metropolitan railway termini reported in 1846 that the main line railways ought to be kept outside the built-up area. For to allow first one and then another of these competing companies to come south of the new Marylebone, Euston and City road would not only be a waste of capital: it would also ruin the property in what was then one of London's best residential quarters. And to let them into the yet holier precincts of the City would cut up its thoroughfares, congeal its congested traffic into a solid block, and drive away more trade than it brought. A shallow underground steam railway under the 'new road'—the Metropolitan—was sanctioned in 1853, and by 1864 it was complete from Brunel's Great Western terminus at Paddington, past Stephenson's North-Western at Euston and Brassey's Great Northern at King's Cross, to the General Post Office. This suggested to a select committee in 1855 the idea 'that the different metropolitan railway termini should be connected by railway with each other, with the docks, the river and the post office, so as to accelerate the mails, and take all through traffic, not only of passengers, but in a still more important degree of goods, off the streets.' By 1863, when the southern railway lines were beginning to bridge the river, and the Thames embankment was about to be made, a select committee of the House of Lords went a step further, and the scheme grew into one for a complete 'inner circle.' When this was completed twenty years later, it did at least provide passengers and mail with a railway link between the main line railway termini. It offered a smoky alternative to the congestion on the roads. It could do but little to lessen that congestion.

(2) *The Housing Phase*

By 1880 the technical problem of central congestion was beginning to yield pride of place to the social problem of travel between home and office. Londoners were more and

more finding their labour in the centre and their real life in the spreading suburbs with the receding country at their door. The contrast between urban and suburban ground rents compelled them to travel night and morning to get the best accommodation for their money. Horse transit went but a little way to solving their problem ; and the inner circle did not take them where they wanted to go. Mechanical traction was needed ; and it must radiate from the centre.

By 1900 three solutions were being offered.

The first was the running of suburban services by main-line railways. In catering for this new and hitherto unforeseen demand, they were encouraged by Gladstone's liberal government. The cheap trains act of 1883 assured them that their passenger traffic would not be taxed if they met the demand for workmen's tickets. But it did not oblige them to issue workmen's tickets if no such demand existed. The result was that this ill-thought-out-policy helped to make the working-class districts more and more working-class, in the east and south-east. In its attempt to solve one housing problem it created another.

More revolutionary than steam in the life of a great city was the development of electric traction under the influence of the Siemens firms in the 1880's. For this made possible the building and operation of deep level 'iron tubes' which would have to pay comparatively little for wayleaves. A line from King William Street to Stockwell, to link the city with south London, under the Thames, was sanctioned in 1884 and opened in 1890. The central London line followed in 1900, as a 'twopenny tube' that charged the same fare for any class of carriage and any distance in the hope of enticing as many passengers as possible to travel as far west as possible. A tube mania set in. By 1901 there were ten projects before parliament. In the chaotic tube-building that followed, only combination could mitigate the losses that were inevitable. American company-promoters who had seen Chicago spread

out into the prairie found American and German backing for the London Underground Electric Railways Company Ltd., through which they got control of all the deep-level tubes, by leasing some, contracting to build others and then getting their company paid in shares, and buying up the uncompleted Bakerloo from its liquidators. And with the shallow Metropolitan-District undertaking that ran the old inner circle they first contracted to provide electric traction and then arranged interlocking directorates.

Electric traction was applied at the same time to the tramcar, It made it the fastest vehicle on the road. In many a city it enabled it to drive the horse omnibus off the streets. And it only cost between a third and a tenth of the capital outlay needed for an underground tube. So between 1904 and 1915, the London county council gradually resumed control over such few London tramways as had been laid by private enterprise ; they electrified them ; they ran them along the Embankment ; they ran them under the new Kingsway, to link up the northern and southern systems that had long been kept apart by the veto of the cities of Westminster and London ; and they vetoed all plans for new company-owned tramways. But they were unable to overcome the veto of all the metropolitan boroughs ; and London still remained unique among great cities in the exceptional smallness of its tramway mileage in proportion to its area and population.

Between the two forms of electrical traction great rivalry was inevitable. But it was intensified by the historical fact that the underground was under private and the trams under public ownership. When a tube bill came before a parliamentary committee, the county council's only *locus standi* was as petitioner against the bill. The county council thus developed into a suspicious rival. And the theoretical struggle between municipal and private ownership obscured the practical technical issues that were really at stake, and impeded their solution.

In Edwardian London, two passenger transport propositions became axiomatic. The first was that all such projects ought to be supervised by a single body, so as to prevent energy and capital from being dissipated in rivalry between one company and another and between companies and the county council. 'Rapid transit commissions' of this sort, with powers of independent investigation and report, had proved useful in American cities. The Underground group advocated the extension of the American experiment to London, in the hope of overcoming the suspicions of the county council. This suggestion was supported by the Barbour royal commission on London traffic in 1905. But much doubt was felt of the value at London of commissioners who would have power to advise but not to command.

The second axiom was that passenger transport ought to be regarded as an aspect of housing, Rural county councils were empowered in 1896 to help agriculture by giving financial assistance to light railways: why then should not the London county council and city corporation be empowered to give similar aid to the tubes on behalf of housing? 'Such powers,' said a joint select committee on London's underground railways in 1901, with an eye on the proposal to build a line to Golders Green ahead of demand, 'Such powers would enable the councils to encourage by subsidy or otherwise the prolongation of railways into districts thinly populated and therefore suitable for the relief of congested districts, whereas in many cases at any rate a public company would not feel justified in extending their line till the population became greater.* And this same view was expressed in yet stronger terms by the royal commission of 1905: 'So much importance do we attach to the construction of railways to new residential districts that if private enterprise will not make such railways we have no hesitation in recommending that the municipal authorities should be empowered to assist. The

* 1901. VI. (279). p. ix.

municipal credit might be used to raise the capital cheaply, or the municipal authorities might take shares or find a portion of the capital at a low rate of interest, or arrange for a total or partial remission of local rates. . . . In any case we think it would be preferable to use the municipal credit for this purpose, or even to incur direct expenditure, rather than to build houses in the centre of London for the working-class at a cost which leaves a heavy burden on the rates, when every argument social and economic is in favour of their removal to the outskirts.*

(3) *The Financial Phase*

Before anything could be achieved along these lines, attention was diverted to the prior problem of financial stability.

The bus managed to face the competition of the electric tram by discarding its horses and substituting a petrol engine, between 1905 and 1911. And competition between the motor-bus and the electric tube was practically eliminated by the passage of the General under the control of the Underground in 1912, and the pooling of their takings in a common fund in 1915. In two other ways, however, it was not so easy to prevent competition from shattering the hopes of promoters and investors.

As the London General Omnibus Company was not the first to put motor-buses on the road, it had to begin all over again its work of buying up competitors. And not once only; for it did this once before the war, and then had to begin again in 1922-24 when other motor bus-builders offered facilities for owner-drivers and other small hire-purchasers to set up in competition. The bus company denounced these competitors as pirates who attempted to skim the cream of the trade on the busiest routes at the busiest hours; yet the newcomers had

* 1906. XL. [2597]. s. 150.

as much legal right on the road as the old-established company. It was not until 1924 that this unrestricted individualism and free competition was at last ended by the passage of the London traffic act, which empowered the ministry of transport to limit the number of buses on the streets. Thus for the first time the vested interests of the bus world obtained legal recognition. And ordinary bus shares, unlike those of the underground, now sold at a premium.

Having overcome the forces of individualism, the combine had next to overcome the forces of municipal socialism entrenched against them in the county council's tramlines. As the adoption of the petrol engine made it more worth the bus company's while to extend its activities from the centre of the Town to the suburbs, it came more and more into competition with the electric tram, both as a means of direct transport to and from the inner suburbs and as a feeder to the railway in the outer suburbs whose development it was helping to facilitate. Whether the competition was altogether fair was perhaps debatable; for the tram was charged with the repair of part of the roadway used by the bus, and it was bound to pay a fixed rate of interest on its debt and contribute regularly to a sinking fund; the bus on the other hand paid heavy excise duties, it was not immune from the competition of other buses, and unlike the tram it could not come on the rates. It was only in the latter part of the war, when bus-men and tramwaymen were both called up, that the bus and tramway undertakings enjoyed substantial immunity from each other's competition. And the bus company would naturally have liked to convert this temporary *de facto* immunity into a permanent *de jure* franchise. But how was this to be achieved?

The Ullswater royal commission on London government had wisely recommended in 1923 that a 'London and home counties advisory committee' should be set up to co-ordinate transport with town-planning and housing. All that came of this proposal in the London traffic act of 1924 was a

mere traffic advisory committee. This committee, in which Sir Henry Maybury was a powerful influence, looked at its problem narrowly from a traffic point of view. Its inquiries in various quarters of London promoted a feeling that the traffic problem might somehow be solved by the elimination of competition. And in 1927 it went so far as to publish a scheme for the co-ordination of the principal passenger transport facilities in the London traffic area. 'In order,' it said, 'to remove all the sectional financial interests and to ensure that the consolidated services work effectively and economically, it . . . provides for the setting up of a Common Fund and a Common Management, to which the passenger transport undertakings operating wholly or partly within the London Traffic Area . . . should be parties. The ownership of the existing undertakings would remain with the present proprietors, whether they be municipalities or private companies.' As the government hesitated, as usual, to burn its fingers in London's regional affairs, it was left to the combine and a 'municipal reform' county council to promote private bills; carrying co-ordination a step further than the advisory committee advised, they sought powers to merge the council's trams in the combine. After defeating this proposal, the next government, with the anti-'municipal reform' leader as minister of transport, carried co-ordination a step further still and introduced a hybrid bill in 1931 under which not only the combine and the council but also the pirates would have to merge their undertakings in one all-embracing monopoly.

Thus the London Passenger Transport Board, under the direction of the same Lord Ashfield as the former combine, became the owner and operator of all London's buses, trams and undergrounds in 1933. £113,000,000 of transport stock was issued in exchange for the stocks and shares of the former undertakings,—three-fourths of it on account of the underground, whose shares were selling at a discount. Over a vast area of 2,000 square miles the board was given the right

and duty of providing passenger services. In the outer quarter of this area it was subjected to the licensing of the metropolitan traffic commissioner. But within the 'special area' of the inner three-quarters, no one else could operate a bus or coach service without its written permission. And the only alternative left to the traveller who might wish to obtain a better service by competing with it, was to ride a bicycle, take out a private driver's licence, or hire a taxi-cab.

The composition of this new board was a legal and constitutional curiosity. In accordance with the usual English method of dealing with public utility undertakings, this bill owed its passage to negotiation with all interested parties, rather than to the use of the big stick. The two years that elapsed between its introduction and its passage therefore allowed time for another change of government and a consequent concession to the back-bench conservatives' horror of Mr Herbert Morrison's ghost. Instead of making the minister of transport responsible for the appointment of this board exactly as a previous conservative majority had provided for the choice of the central electricity board, the responsibility was delegated to a many-headed body of 'appointing trustees.' These were to consist of representatives of the chartered accountants, the clearing-house bankers, the solicitors, the London county council, and the London and home counties traffic advisory committee: no room was found for a representative either of a government department or of a trade union. Thus the previous owners were assured that their interests would continue to be represented on the new board. And to remove the board yet farther from national politics, members of parliament, by a self-denying ordinance, debarred themselves from appointment.

The financing of the new board was no less curious. And its clumsy uniqueness would seem to be due more to Mr Morrison than to his successor. It had two remarkable peculiarities. The one was the unusual inflexibility of its

interest burden. Not only had it to pay fixed interest rates on the debentures that became its 'A' stock and the preference shares now its 'B' stock; but it was not free to redeem them before 1943, however much interest rates might fall, although it was obliged to redeem them between 1943 and 2023, much as it had to do with its tramway debt. Worse still, it was not given a free hand in paying or not paying a dividend on the ordinary shares that became its 'C' stock. On the contrary, it was obliged to pay a standard rate of as much as $5\frac{1}{2}$ per cent. at least once in every three years, if it wanted to keep out of the bankruptcy court. It thus turn out to have less flexibility than the railway companies, which could well reduce their dividends on ordinary shares to $\frac{1}{2}$ per cent. or nil for as many years as they thought advisable. The other innovation was the establishment of a 'standing joint committee' representing the new board and the four main-line railways, to work a pool into which were paid the net traffic receipts of the board and of the suburban railways. Out of this pool, new and co-ordinated developments were to be financed, while the remainder was to be divided between the railways and the board on an agreed ratio, the board drawing a bigger catch than all the railway companies together.*

The aim of this complicated finance was clear. When the traffic advisory committee published its co-ordination scheme in 1927, it said: 'The committee feel satisfied that if the proposals set out in this memorandum are accepted, the transport undertakings concerned can be made self-supporting without any increase in the general level of fares now prevailing.' Similarly Mr Morrison: 'We take the view that with efficient management the potential earnings of London passenger traffic, fully co-ordinated as we propose, are such that no form of liability need be entailed upon public funds or

* The coronation earnings of the suburban main-line railways thus compensated the board for the loss of bus fares during the strike in 1937.

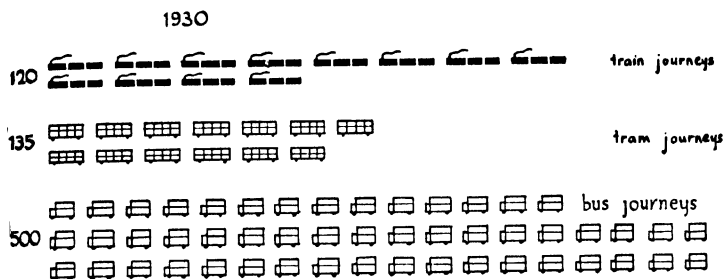
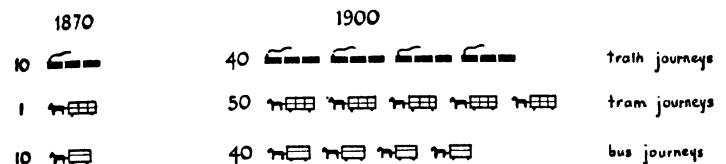
public credit, and upon that assumption we shall proceed.’*

Yet as soon as the long-delayed improvement of London's north-eastern suburban railways was undertaken in 1935, the board had to be allowed to increase its indebtedness by no less than one-third, a government guarantee was asked and was given, and the public credit made it possible to raise a loan at a lower rate than could have been done on the credit of either the board or the pool. This transaction was decently masked by the registration of a company called the ‘London Electric Transport Finance Corporation, Ltd.,’ from which the board borrowed and to whose $2\frac{1}{2}$ per cent. debenture stock the treasury gave its guarantee. The financial stability towards which London has been riding since the war is threatening to prove a mirage ; the co-ordination of housing and transport, towards which the select committee of 1901 and the commission of 1905 so wisely pointed the way, may well lead us further in the long run.

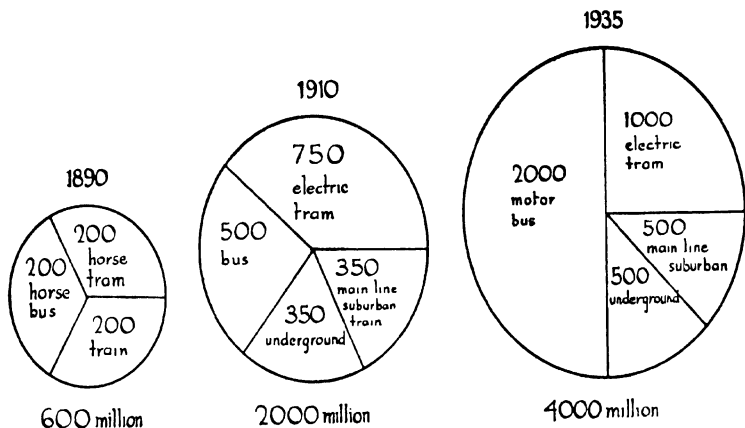
* H. of C., 2 December 1929, cited in his *Socialization of Transport*, p. 110.

CARRIAGE OF GOODS AND PASSENGERS

GROWTH OF LONDON PASSENGER TRANSPORT



How many journeys a year were made by each Londoner on the average?



How many million passengers a year were carried by each form of transport?

CHAPTER V

POSTAL COMMUNICATIONS

I. THE POST OFFICE

THE transmission of messages is monopolized by the state to a greater extent than any other public service.

It was not always so. In the middle ages, the crown left so commercial a business to business men. It seldom had a regular service for the transmission of either its own or anybody else's messages. On some special occasion a courier might be dispatched post-haste. In emergency, the news of invasion might be flashed by beacon along the hill-tops of England. Edward IV in his war against the Scots, and Richard III in self-defence against Henry Tudor, might use his rights of purveyance to requisition horses and post-boys every twenty miles along the road so as to send dispatches one hundred miles in a day. And no doubt any noble conspirator could have used his connections to send messages with at least equal speed.

With the new monarchy of the Tudors a change set in. Posts, like embassies, began to become permanent. Henry VIII's household included a master of the posts. Posts were fixed along the Dover road for the transmission of dispatches to and from the continent. In 1603, James VI and I posted horses along the road to Scotland. Others followed, until Laud and Wentworth in their despotism had the advantage of fixed posts along six of the principal roads from London.

Here then for the first time was a large-scale organization which no merchant could hope to rival. But how were its overheads to be met by a crown that could barely make both ends meet? Only by leaving the posts to pay their way, much as Queen Elizabeth made the war with Spain pay for

itself. Wherever the sign of the horn hung at the door, post-horses could be hired, or 'by-letters' handed in to be carried along with but outside the royal dispatch-case—the royal 'mail.' In her struggle against conspiracy and invasion, Elizabeth tried to stop the carriage of messages to foreign parts by other agents than her posts. Her successors, including Cromwell, tried to extend their monopoly to cover inland as well as foreign letters, partly to check opposition and partly to make their posts pay. To make doubly sure that the king's posts should not be a drain on his exchequer, they were entrusted to an undertaker named Thomas Witherings in 1635 under a patent of monopoly: in return for a monopoly both of post-horses and of the carriage of inland letters, he contracted to maintain posts on the six main roads from London and to carry letters at fixed rates and at regular times. He made the posts pay so well that the Commonwealth decided to reap some of the profit: it farmed them out to the highest bidder at a fixed rent for a short term of years. This farmer-general became known under Cromwell as the postmaster-general. He might quite well sub-let his farm to a deputy, or bequeath it to his widow, for the duration of his lease. Under Charles II, such a post-master-generalship became a convenient reward for a courtier; the rent paid by the postmaster-general was fixed on the king's brother, James, Duke of York. The monopoly was extended by annexing a local penny post which a London merchant thought it worth his while to organize in 1680. And under James II the profits from the posts went to swell the royal income and pay for the king's new Irish Catholic army.

Revolution and war made parliamentary leaders loath to leave this expanding source of revenue and influence at the free disposal of the crown. So Harley's majority in 1710 forbade the opening of letters without special warrant from a secretary of state, and prescribed that the postal revenue should be divided between king and parliament in a proportion to be

fixed at the beginning of each reign. Thus the early Hanoverian kings were free to grant away their share to a mistress or a courtier, until George III put his share of the posts as well as the whole of the crown lands at the disposal of parliament on his accession in 1760. Thus by easy stages, the royal mail, like so much else that is royal in name, became parliamentary. And 'our post-master-general' followed the lord high admiral and the lord treasurer into commission: throughout the whole eighteenth century he was two gentlemen.

In many ways the parliamentary ministers moulded the posts to meet the needs and fit the temper of the eighteenth century. Cross-posts were wanted, so that all letters should not have to pass through London: the treasury did not want the risk of financing them; the right to organize them was therefore farmed out to the postmaster of Bath from the South Sea Bubble of 1719 to his death in 1764. A safe method of remitting money was wanted; but, rather than organize it officially, the post office allowed its 'clerks of the road' to make their own arrangements with its local postmasters for a private profit-making service of money-order advices from 1791 until the post office bought them out in 1838. Newspapers wanted foreign dispatches; but the clerks were allowed to supplement their income by acting as a foreign news agency, to which they compelled the press to subscribe by using their power to delay the delivery of correspondence.* Postage was raised, to help pay for an unprecedented series of wars; but the same clerks of the road and all members of both houses of parliament were allowed to frank letters and newspapers for free delivery, until the post office had to handle about one-tenth of the mail for nothing. The monopoly of post-horses broke down; and parliament legalized the breakdown in 1749. The monopoly of letter-carriage played into the hands of the highwaymen and was broken into by the stage coach; and it too might well have disappeared, had not the

* *History of The Times* 1. 96 sqq.

post office organized a slightly better service, thanks to the judges who insisted on its duty of house-to-house delivery in the post-towns from 1772 onwards, and to Pitt who contracted for a service of fast and well-armed mail-coaches from 1784. In spite of all its defects the post office thus survived in a competitive world, not because of its statutory monopoly, for this was not enforced, but because it offered a fuller organization than could be afforded by any competitor.

For the post office, the era of radical reform under Whig auspices dawned in 1839. The penny postage was the great reform act of the postal service. The number of sheets in each letter was no longer counted behind a strong candle to see what postage-rate should be applied. The mileage covered was no longer counted in assessing the postage due. The resulting increase in correspondence made it necessary to invent prepayment by adhesive stamps in place of payment on delivery. And for those who desired a guarantee of delivery, registration was introduced.

In the age of liberalism, two principles governed post-office development. The first of these was that the post office should be run as a communications service and not as a painless tax-extracting machine. This was one of the fundamental tenets of Rowland Hill, the godfather who presided at its new birth. He was well satisfied when the number of letters to be carried was doubled in the first year of penny postage, quadrupled in ten years, and decupled in thirty, although it took all that time before the post office again yielded as big a profit to the treasury as in 1839. With the spread of popular reading, a book post was introduced under his influence in 1848, and a newspaper post when the excise stamp on newspapers—which did at least carry the right of free postage—was abolished to meet the Crimean war-time demand for news in 1855. The penny letter was even made to subsidize a halfpenny post-card and halfpenny printed matter under Gladstone's government in 1870, and halfpenny articles for

the blind in 1906. Free house-to-house delivery was extended from postal towns to country districts if they paid enough in postage to meet the cost of this additional service ; and after this somewhat arbitrary formula had been made progressively more generous, free delivery became general in 1906, the rural post being henceforward subsidized by the urban. The post office stepped into Florence Nightingale's shoes as the organizer of international money-order advices during the Crimean War, and it facilitated the remittance of fixed and smaller sums by Fawcett's introduction of the postal order in 1881.

The establishment of an International Postal Union with a clearing-house at Berne made possible the uniform foreign letter rate of 2½d. in 1874. The same movement for the improvement of international communications encouraged Fawcett to bring Britain into line with other countries in 1882 by utilizing the posts for the competitive reception and delivery of small inland parcels. And, in that great age of emigration, it paved the way for the extension of the penny post to the empire overseas after the diamond jubilee of 1897 and to the United States of America.

The other cardinal principle of Victorian post-office finance was that this department of state, like all others, should be strictly subordinated to the treasury. It was as a temporary and supernumerary official of the treasury that Rowland Hill first began to reform it. The last vestiges of its financial autonomy disappeared in 1854. It ceased to meet its expenses out of its own receipts : all its receipts had to be paid into the consolidated fund, and all its expenses, even for capital outlay, met out of annual parliamentary appropriations. Nor could it carry over one year's surplus to the service of the next ; for although this might have been an incentive to economy, it would have made a hole in the commons' control over expenditure. The very possibility of self-contained finance faded further and further away. As in all previous

ages, the post office had to transmit official correspondence for nothing, while, on the other hand, it got its offices repaired and furnished gratuitously by the board of works and its printing and stationery provided by the stationery office. Its network of tens of thousands of offices made it the obvious maid-of-all-work of the treasury. It was Gladstone who first grasped at the possibility of utilizing it for services that had comparatively little to do with communications. When he made himself the hero of the rising working class by establishing the post-office savings bank in 1861, it was not only or even chiefly the promotion of self-help and thrift that he had in mind: it was partly the avoidance of the loss that the treasury had hitherto incurred by supporting trustee savings banks, but, still more, the desire 'to provide the minister of finance with a strong financial arm, and to secure his independence of the City by giving him a large and certain command of money.' 'It was only,' he wrote, 'by the establishment of the post office savings banks and their great progressive development that the finance minister has been provided with an instrument sufficiently powerful to make him independent of the Bank and the City power when he has occasion for sums in seven figures.*' The savings bank's accounts have as far as possible been kept apart. Not so the increasing number of services demanded of the post office in the twentieth century, such as the payment of pensions, the sale of insurance stamps, and the sale of war savings certificates, to say nothing of the sale of revenue-bringing licences.

Now these two principles—the service of the general public, and subordination to the treasury—have eventually come into conflict. Instead of being more or less self-balancing, the post office has become more and more a revenue-producing service. The surplus that it paid into the treasury each year stood at a million and a half both in the 1830's and in the 1870's; between those dates it was less; to-day

* Fragments printed in Morley's *Life* (1903), i. 650 sq. and ii. 52.

it has soared to ten times that sum. Instead of treating the post office as a communications service, the treasury has treated it more and more as a milch-cow.

This conflict of principle has led the post office itself to draw up commercial accounts and submit them to the commons' auditor-and-comptroller-general, in order to show what the post office's finances might look like if it were a business firm or an autonomous public service and not a state department. The permanent secretary of the post office publicly suggested that the chancellor of the exchequer might find it politic to deflate his budget by omitting the self-balancing part of post office expenditure and income. The campaign of a former postmaster-general for its transformation into an autonomous body under commercial management led to the appointment of a departmental committee of inquiry in 1932 in reply to a memorial signed by half the members of parliament. 'Whether any changes in the constitution, status or system of organization of the post office would be in the public interest,' was the exceptionally wide issue laid before it. And this Bridgeman committee reached a compromise which has been acted upon since 1933.

It suggested that evolution should be in the direction of self-contained finance, with a fixed contribution to the treasury of eleven-and-a-half million a year, and the crediting of half the surplus to a post-office fund for the improvement of the service. But at the same time it shrank from the surgical operation of cutting the post office off from the state with which it had been indissolubly connected at every period of its growth. 'We are definitely of opinion,' it reported, 'that such transference is impracticable, nor do we believe it to be either necessary or desirable. We consider that the public have a right to the influence which parliamentary discussion and control alone can give.'*

* 1932. XII. [4149]. p. 18.

POSTAL COMMUNICATIONS

II. MAIL CONTRACTS

The evolution of the post office is not a thing apart. In every age it has had a potent influence on the development of the most important contemporary methods of carriage. For it has always been one of the biggest and most regular of customers.

This has always been so with inland mails.

The contract into which the younger Pitt entered with Palmer, a theatre proprietor of Bath, in 1784, ushered in the half-century reign of the mail-coach. The contractor was given a post office guard and paid a fraction of a penny for every mile that he carried mail, provided that his coaches left the general post office at St. Martin-le-Grand and returned there all together at the scheduled time. His real reward was that the carriage of mails exempted him from turnpike tolls, while the speed that was desirable for mails proved attractive also to passengers.

At one moment there seemed almost to be some chance that a similar procedure might be applied to the railways. The new railway lines were as open as the turnpikes to all traffic that liked to pay toll. So a select committee on the carriage of mails suggested in 1839 that the post office might perhaps arrange for mail-trains to run toll-free over the companies' lines, carry passengers, and probably get much of the express passenger traffic into its hands. As the companies were already becoming the principal carriers on their own lines, this suggestion was out of date as soon as it was made. All that actually happened was that railway companies were put under a statutory obligation to run whatever services the post office desired. This act has seldom if ever been invoked ; but its existence in the background of the negotiators' minds may have helped the post office in contracting with the companies for a fast night service of travelling post offices. Better

provision for the fixing of the contract price might have been more useful. But in the early days there was still some possibility of coach competition; competition between the railways themselves was only slowly eliminated; and Chichester Fortescue's proposal that adjudication by the railway commission should supersede arbitral awards was struck out by committee in the commons in 1873.

The subsequent rise of the motor van has restored to the post office a considerable measure of freedom on all but the long night hauls. For the mere carriage of mails, it has been able to arrange with the road haulage contractor. And for combining carriage with collection, it has organized its own all-red fleet of post office motor vans with postmen drivers.

The influence of the posts on communications in general has been yet more noticeable in the carriage of letters overseas.

It was the 'posts for foreign parts out of the king's dominions' that provided the first postmasters with their monopolies. They claimed a monopoly of the inland carriage and distribution of these letters from abroad, while competing with merchants for the carriage of private correspondence across the narrow seas. To make doubly sure of having the distribution of letters, they found it advisable to give the captains of incoming ships a tip for every letter handed over to them; and this customary gratuity received statutory sanction in 1710.

At the same time an attempt was made to give the crown a statutory monopoly of all letter-carrying, whether by land or sea, throughout the whole empire. In the true spirit of mercantilism, the king's posts were to be one bond the more of imperial unity. With the American colonies then the post office claimed a mail monopoly. On other seas it competed with merchant ships. And the Eastern mail fell within the East India Company's trade monopoly.

From the mid-seventeenth century to the mid-nineteenth the post office had its own mail packets. Of the Dover packets

it was the owner. The Harwich packets for Holland and the Falmouth packets for Portugal and the West Indies were chartered from contractors, who were often at the same time post office servants. These contractors had their ships kept in repair for them at the expense of the post office, and replaced if they happened to be lost to the enemy. In the days when sailings were irregular, when all ships were armed, and when mail packets were built for speed, the captains of West Indian packets were apt to add a little private piracy to their public sources of income. And in those days of small electorates and rotten boroughs, the mail packet offered convenient opportunities for treasury or post office influence, and sometimes even for a clash between the two.*

With the coming of the steamship it became less necessary for the post office to buy or charter mail packets. For steam made the regular liner both possible and profitable. At first the post office continued its old policy by building a few steam packets of its own. Then the admiralty took over responsibility from 1837 to 1860, under the illusion that it could use packet contracts to increase the number of steam vessels available as armed auxiliaries in the event of war. As the admiralty was supposed to get the authorization of the treasury and to hold consultation with both the colonial office and the post office, all of whom saw the question from different angles, the most wasteful confusion frequently occurred whenever a contract came up for signature or renewal. The House of Commons objected that its right not to vote the contract payments was seldom reserved. The colonial office protested that all the trans-Atlantic subsidies went to lines bound for United States ports, with the result that Canada felt obliged to subsidize another contractor. The treasury complained that altogether the packet contracts entered into by 1860 amounted to more than one million pounds a year.

* L.B. Namier, *Structure of Politics*, pp. 441 sqq.

And steamships were becoming so numerous that even the admiralty now gained nothing.

In 1840, when Cunard got his first packet contract, no regular trans-Atlantic lines had yet been organized: by the 'fifties there were many lines able to compete with his. It was then becoming absurd to pay a contractor twice as much as the postage paid on the letters he carried, now that other liner-owners were willing to tender to carry the same mail at a rate that would not leave the post office out of pocket. No less than three committees sat upon these contracts in the 1850's.* These brought the admiralty experiment to a close. And they persuaded the post office to draw an important distinction. On the one side, there were now liner routes, 'where steamers employed for passengers and commerce are available and there is effective competition': on these no subsidy and no long contract was necessary. On the other hand there still remained some routes on which ordinary traffic was not enough to make a regular line remunerative: on these alone a long contract and a subsidy might remain desirable. This became the working rule of the post office from 1860. Where regular lines were in operation, it sometimes dispensed altogether with contracts, and used the reserve power given to it under acts of 1815 and 1837 to order any ocean-going ship to carry outward mails at a statutory price. On the less frequented routes, the packet contract remained the only important form of subsidy known to the British merchant marine; but it became harder and harder with the passage of years for any shipowner to get a subsidy contract from the post office.

Now, however, the age of subsidy contracts has returned, to stimulate the opening of air-lines much as one hundred years earlier they were used to encourage the organization of ocean lines. At first a surcharge was levied for air mail, in order to meet the higher contract price that was inseparable

* 1853 (Lord Canning), 1859 (Cobden), 1860 (Dunlop).

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from carriage by a machine that can lift only limited loads. Then the surcharge was abolished and the contract became a frankly unremunerative subsidy. In Europe's vicious circle this element of subsidy has been particularly hard to avoid ; for the nationalism that has led every government to subsidize its own national air-lines has stood in the way of an international air cartel and the two-way posts that are possible in the United States of America, thus limiting each airline to contracts for outward mail only. This contract subsidy has amounted to over £500,000 each year since 1935. On inter-imperial routes however, the more economic proposition of a two-way service has proved less difficult to organize. The post office has contracted with Imperial Airways eventually to pay £900,000 a year for three years in return for the carriage of all the mail the public may feel disposed to send at the rate of 1½d. a half-ounce. At the initiation of the scheme this is a greater sum than the postage received by the post office : but by the end of the contract the postal receipts may well have mounted, the post office may thus cease to be paying an uneconomic subsidy, and Imperial Airways may find itself with less lifting-power left free for passengers on its flying boats.

III. THE TELEGRAPH

Electric telecommunications originated with the railway companies and not with the post office. It was the Great Western Railway, with its continuity of property over long distances, that first provided Wheatstone with the opportunity to turn a scientific discovery to practical use. It was business companies, most of them non-statutory, that organized the first cross-country services, leasing such wayleaves as they could from railway companies and highway authorities. It was from railway stations and from the offices opened by these telegraph companies in the business centres of big

towns that all British telegraph messages were sent and delivered between 1837 and 1870.

Yet the electric telegraph was slow in catching on in England. For this there seem to have been three reasons. The distances to be covered were so much smaller than in America, that the post sufficed for all correspondence that was not of extreme urgency. The telegraph offices were concentrated where they could win most trade and earn most profit, and therefore did not offer the advantage of speedier communication with outlying villages and suburbs. And the telegraph companies came up against a widespread distrust among business men because they were themselves business concerns.

When Gladstone hitched a savings bank on to the post office in 1861 it was asked why he did not do the same with the telegraphs. The argument was eloquently expressed, in periods as well rounded as a Victorian chair-back, in a letter which he received from the nephew of the great Ricardo, himself an eminent director of railway and telegraph companies.

‘The exertions, the enterprise and the perseverance of those who carried out and established this great boon to the world, who appreciated its great commercial and political value and determined at their own risk and peril to test the capacity of what was then considered a desperate enterprise, have never been acknowledged, and least of all by the government of the country to which they belonged; nor does the telegraphic system seem to have been comprehensively judged, fairly encouraged, or sufficiently, and to its fullest extent, made available for the purposes of the state. It was not so with the other governments of Europe: no sooner was it fairly established at the risk of private individuals in Great Britain . . . than it was at once seen and understood upon the continent that so powerful an engine of diplomacy, so important an aid to civil and military administration, so

efficient a servant to trade and commerce, should become a national institution, and a national institution alone. . . .

‘ At the outset of telegraphy, the policy of appropriating to the state so powerful an instrument . . . might have been premature, and it is possible that the powers of the telegraph and the assurance of its practical success were not sufficiently pronounced to render it other than a speculation into which it might have been imprudent for any government to enter. [But now in 1861 it would pay the government to buy out the commercial companies by borrowing £2,000,000 at 3½ per cent. and continuing to make 6½ per cent. profit.] . . .

‘ It is most creditable to the telegraph companies that they have taken every precaution to maintain inviolate the important government dispatches which have passed through their hands, as well as the privacy of the commercial and general correspondence of the country ; but it is not to be concealed that great jealousy does exist upon these points, and that any measure which could remove the uneasy feeling naturally attendant upon the present state of things, would be received with popular acclamation. . . .

‘ To secure the honour and reputation of the British government as a guarantee for the privacy of communications necessarily more confidential than those conveyed under sealed envelope through the post ; to establish a conviction that the public are dependent not upon the direction of individuals but upon the faith of a ministry responsible at any moment to a vigilant parliament ; that there shall be no undue preference or precedence given even to the highest financial or most powerful influence in the land ; in fine, to substitute the safeguard of statesmen chosen by the nation for their talent and integrity for that of men of business, however high their character, elected by a body of shareholders simply to pay them the highest amount of interest obtainable from the tolls levied upon the public ; to retain the telegraphic dispatches of the various departments charged with the maintenance of the

honour and interests and tranquillity of the country inviolate and inviolable, instead of being passed through the hands of a joint-stock company—are advantages, which no man can deny, and which parliament and the people will not fail to appreciate.’*

The lack of public confidence was similarly enlarged upon by the permanent assistant secretary to the post office in a published report to Disraeli’s postmaster-general in 1868 : ‘ It is sufficient for me to contrast the early, rapid and great development of telegraphic correspondence in Belgium and Switzerland with the comparatively slow and feeble growth of such correspondence in the United Kingdom ; and to ask why it is that in this country, where knowledge is so generally diffused, where commerce is so active, where social intercourse is so frequent, full and free, and where a people have shown so marked a readiness—a readiness not paralleled in any other country—to interchange thought and opinion through the post office, recourse for the like purpose to the telegraph is proportionately less common than in less wealthy and less busy countries ? ’†

Not least convincing was the argument of the same post office official that ‘ the post office can bring to the performance of any new duties which may be allotted to it the possession rent-free of 12,000 offices distributed equably with the population all over the kingdom, and the ability to find labour for a portion of the day without paying for it through the whole day.’†

The country squires that backed Disraeli, the business men and newspaper proprietors and radical theoreticians that supported Gladstone, were all alike in favour of a system that should spread telegraphic facilities more equally over the country at large. So in 1868 an act was passed empowering the treasury to purchase the telegraph business, and granting

* Printed in *Report*, 1867-8. xli. (202). pp. 48-51.

† *Ibid.*, p. 29.

the post office wayleave rights over public highways. And in 1869 this was completed with an act which gave the post office a monopoly of the inland telegraphs, for fear that some new company might be formed to get the cream of the traffic. And the lands clauses act, used hitherto only by profit-seeking company-promoters, was incorporated in the telegraphs act of 1869. 'The postmaster-general,' it read, 'shall be deemed to be "the promoters of the undertaking" '; and 'the word "lands" shall include the whole or any portion of the undertaking.' This resulted in the treasury having to give twenty years' purchase of the previous year's net profit, and to this had to be added allowances for the hope of yet higher profit in the near future, for perpetual wayleaves on the railways, and for the railway companies' reversionary interest in leases they had granted. Ten years later, when the last arbitration was completed, the total amounted to £8,000,000, or some four times the market value of the plant acquired. It would have been cheaper for the state to erect a completely new system, and to this there would have been no legal impediment; for the telegraph companies were not in enjoyment of any statutory monopolies or privileges, and were therefore not in any legal sense vested interests. Respect for the pioneering investor, and reluctance to shake his confidence, made so high-handed a course quite unthinkable in those days. To this £8,000,000 of purchase-money, another £2,000,000 had to be added as the cost of extending the telegraph into the suburbs and the country. And the whole £10,000,000 was met by issuing consols that were merged in the national debt.

Within four years from 1869, twice as many offices were open and twice as many telegrams sent. Eventually a telegraph office was opened wherever the telegrams averaged one a day. Newspaper proprietors and news agencies also gained; for they were allowed to send press telegrams at about the same price as the telegraph companies had previously charged for collecting and supplying press reports, although

before long this amounted to £250,000 a year less than the press would have had to pay if its telegrams had been charged full rate. And the railways also kept their right to send free telegrams for their own service. But with these exceptions, the new British postal telegraph service lived consistently up to the principle that had led to its establishment—complete equality of service to all users.

The postmaster-general's responsibility to parliament had a most important effect on telegraph finance. In 1883, in the teeth of Gladstone's government, a private member carried a motion in favour of the sixpenny telegram. Two years later Fawcett obeyed. Telegraph traffic doubled immediately; but costs rose more than receipts. The telegraph service ceased to pay its way. In its invaluable service to the press, horse-racing and family affection, it had to be subsidized by the penny letter post. Even when its capital was revalued, its net revenue was not enough to equal the interest on its debt. And it was long before mechanical invention and rationalization stemmed the rise in labour costs. The inland postal telegraph became the model of the nationalized service that did not pay its way because its bureaucratic duty, like that of any other government department, was limited to executing the will of parliament, and because its unimaginative administration failed to enlist the engineering enterprise that was needed to counteract the rise in costs.

International telegraphy was in quite a different situation. It was here that electricity performed its most useful feats in annihilating time and space. Highly speculative business companies here met the needs of men engaged in speculative business to whom time was money. There was no question here of the unremunerative equalization of service.

The first cable companies were those that crossed the narrow seas. J. L. Ricardo got a private act for the first 'electric and international telegraph company' in 1846.

President Louis Napoleon granted a concession to a 'submarine telegraph company between Great Britain and the continent' in 1850. But wherever a cable was landed on the king's foreshore it was at the mercy of the board of trade. Whenever it leased a land line it was liable to pressure from the post office. And a few cables were incidentally acquired by the treasury along with the inland telegraphs in 1869, to be leased out. It was inexpensive therefore for the British government to fall into line with its nationalizing neighbours, buy up old cables cheap, and lay new ones in agreement with other governments between 1889 and 1910.

Laying the primitive cables of the nineteenth century beneath the ocean was a greater adventure, and one that was too risky to be undertaken without the financial guarantee that only government could give. The Atlantic telegraph company of 1856 was not in too bad a way: thanks to cotton, then in its golden age, it was not difficult to raise £350,000 by a sort of national subscription of £1,000 each by merchants interested in the Atlantic trade; the 4 per cent. interest that was guaranteed them by the United States and United Kingdom governments was therefore limited to a term of twenty-five years, and made conditional on the successful working of the cable. But when it came to laying the Red Sea and India telegraph in 1859 after the mutiny, £1,000,000 could not have been raised without an absolute treasury guarantee of 4½ per cent. for fifty years; for not only was the risk greater, but the economic advantage of the cable was also less than the political need.

This political need grew greater when imperial expansion set the British nations alone against the world in the South African war. The demand for an 'all-red' cable, whether it paid or not, could best be met by state action. The Pacific cable board, jointly representing the Canadian, Australian, New Zealand, and British governments, was therefore set up in 1901. And in 1917 an imperial cable across the Atlantic

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was won by cutting an enemy cable, towing its two ends into port and linking them to the Canadian and the British telegraph systems.

Thus imperial and cross-Channel cables tended to follow inland telegraphs in passing under governmental control between 1868 and 1917, while trans-oceanic services to far distant foreign countries tended to remain in the hands of commercial companies.

IV. THE TELEPHONE

The telephone became a commercial proposition forty years later than the electric telegraph and ten years after the inland telegraphs had been acquired by the British post office. The post-office telegraph service rushed to utilize the new invention: so did commercial companies. But in 1880 the queen's bench division held that a telephone was a telegraph, at least within the meaning of the act of 1869. The post office thus acquired a legal monopoly of the telephone service from its very earliest days.

The policy adopted by Fawcett as postmaster-general had two aspects. He wanted to give scope for pioneering by profit-seeking companies of lessees. But he did not want these leases to telephone companies to be so undefined in time and space as to constitute them a competitor to the post-office telegraphs or a vested interest with a claim to the same high compensation as the telegraph companies had recently received. As a bargaining weapon, he got the treasury to approve the principle of competitive post-office telephone exchanges. And, thus armed, he was able to limit companies' licences to thirty-one years, with an option of purchase at intervals, restrict their exchange areas to five miles, extort a ten per cent. rent on takings, and expose licensees to competition among themselves.

Experience soon showed the weak point in this policy. Gladstone's treasury had funds enough for the occupation of Egypt, but not for competitive post-office telephones. The companies thus acquired all the patents and had the field to themselves. But each field was so restricted in area that the potentialities of the telephone could not be fully utilized. On the assumption therefore that the treasury would not spend money on post-office telephones, Fawcett's policy was modified in 1884 to allow the licensee companies to enlarge their exchange areas and lay trunk lines.

Freed from the menace of competition, the companies were thus enabled to consolidate their position and to amalgamate. But wayleaves for their trunk wires were often vetoed by local authorities. Only the post office, with its statutory right to telegraphic wayleaves, was thus in a position to develop trunk wires. Under a series of acts beginning in 1892 the post office therefore bought back the trunk lines for £459,000, and extended them at a cost of another £1,800,000. Henceforward the company controlling the local exchanges would have to pay toll for traffic on the post office's trunk wire.

The local service provided by the monopolistic company did not everywhere meet local requirements. Under the impulse of a select committee that reported in 1898, the post office therefore reverted to a policy of competition. Local authorities were offered licences, Hull and one other actually developing their own municipal telephone exchanges, much as they set up their own local labour exchanges and universities in that brief golden age of civic enterprise. In the metropolitan area, the post office itself set up in competition with the company.

Agreement was soon reached for intercommunication and the limitation of wasteful reduplication during the few years that the company's licence had still to run. And when the licence came to its end—which was in most localities 1911—the post office bought up the company's somewhat dilapidated

plant at what was assumed to be its market price—a somewhat abstract sum that was assessed by the railway and canal commission at a little over £12,000,000. Its goodwill as a going concern was worthless ; for its legal life was limited by an expiring licence.

After laying the foundations of a telephone service in this piecemeal and planless fashion, the next task was to build it up into a system that might better meet the nation's needs. The standard of construction was improved, a reputable engineering service was built up, wires were laid underground, long-standing arrears were gradually made good, an experimental station was organized, automatic exchanges were opened, and the cross-Channel cables adapted to telephone calls to the continent. Not only has a better and better service been provided : it has been provided at a lower cost. The flat rate charged before 1911 had made the telephone advantageous to the large or rich user : the combination of a low rental with a moderate charge for each call brought it within the reach of wider sections of the middle class : the introduction of free calls has popularized it with the middle class at large. With every new subscriber, the usefulness of the service has increased. A low maximum charge has been fixed for trunk calls. Night calls have been cheapened, to keep up the calling-rate after business hours. Public call-offices have been multiplied. For the first time a government department has developed a sales and publicity side. During the 1920's the number of subscribers rose from one to two million. In less than a generation of post office management, the telephone has been converted from a business convenience to a conventional necessity.

Nor has this improved and cheapened service failed to pay its way. The post office was handicapped at first by the out-of-date plant it inherited and by the inflated prices of the post-war boom. But it gradually perfected the technique of getting contractors' prices down. By offering cheap night

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calls, it secured a more economic use of its plant. With every improvement in its service, it attracted new subscribers and increased business. By the 1930's it was making a profit which more than covered the loss made by the telegraph. It could afford to give a town service to country subscribers. It made electric telecommunications pay their way for the first time for fifty years. It joined the letter post as one of the mainstays of post-office finance. It has shown what a nationalized service can do when it is on its mettle, just as the telegraphs had given a display of nationalization at its worst.

With this shifting of the balance of post-office finance, there came an inevitable change in the role of the engineer. In the days of the royal mail, questions of policy posed problems only of political principle and economic practicability. But now the constructive imagination of the engineer was becoming more and more important. And the Bridgeman committee marked a stage in this evolution when it pleaded that the technical specialist should be no longer treated as the executive subordinate of an autocratic secretariat, but should be given the opportunity to play his part in the shaping of administrative policy. Such an opening might be offered by a novel devolution of responsibility to regional boards, and by a new attempt to set up a central board at which the permanent secretary should sit side by side with the engineering and other divisional heads, like the sea lords whom Bridgeman had known when first lord of the admiralty. Telecommunications, that have made the plant almost as important as the postman, have made the accountant and the engineer as indispensable as the secretary, who has now become the director-general.

V. WIRELESS COMMUNICATIONS

The radiocommunications of the early twentieth century have filled in a number of gaps left by the electric telegraph and telephone.

The first of these gaps was the impossibility of communicating with moving traffic such as ships or aircraft by means of land lines or cables. Yet no telecommunications were so important to the safety of travellers. Ship-and-shore wireless telegraphy was already the object of post-office experiment when Sir J. Ambrose Fleming designed the wireless station at Poldhu in 1900 and invented the thermionic valve in 1904. Through fear, however, of allowing any breach to be made in its already unprofitable inland telegraph monopoly, the post office hesitated to grant licences except to experimenters. It thus provided conditions favourable to the monopolizing of wireless telegraphy by a concern built up by a man of fashion who combined a genius for scientific invention with a flair for company-promotion. To this pioneering Marconi company the post office left the transmission of wireless messages between ship and shore from 1904 to 1910. And when this new service had passed the experimental stage the post office resumed it, to work it as an extension first of its inland telegraph and later of its telephone systems.

Wireless telegraphy across the Atlantic Ocean to Canada and the United States was left in the hands of the Marconi company until the war; for it was envisaged as commercial competition with commercial cable companies. But the war gave a new political importance to transoceanic radiocommunications, especially between the members of the British commonwealth; for the British capture of the German cables had shown how easily cable communications might be interrupted by even the most temporary and local loss of the control of the seas. For reasons of state, the governments of the commonwealth therefore agreed that the British post office should erect a long-range long-wave station capable of communicating with every country in the empire on all five continents and with every ship afloat in all seven seas, without any risk of interruption by the cutting of cables, or the damaging of intermediate retransmitting stations. Under the

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expert direction of Lord Milner's standing imperial wireless telegraphy commission, this station was erected by the post office at Rugby by 1925, at a cost of £500,000. It then fell to the post office to do its best to lose as little as possible on a service that was primarily of political and not of economic importance. News could be telegraphed from Rugby simultaneously to all parts of the empire and of the world. And Rugby was also utilized for the high-priced long-distance telephone talks for which the transoceanic cables had proved ill-suited and which the post office therefore had good reason for annexing to its successful and prosperous telephone service.

Before the Rugby long-wave station was completed, invention made it possible to direct beams of short waves from point to point at a far lower cost. This beam system could not altogether replace Rugby; for it was confined to the written word of the telegram and did not stretch to the speaking voice of the telephone subscriber; nor did atmospheric conditions make it available at every hour of day and night. Bonar Law hoped to speed up this provision of wireless communications with the British dominions by admitting commercial beam companies to compete with the post-office station at Rugby. Only the failure of the Marconi company and the post office to agree on the terms of a licence prevented this from happening in 1923.* Under a labour postmaster-general, the post office therefore felt free in 1924 to step in and compete with itself.

As soon, however, as these imperial beams began to function in 1926-27, it became clear that their low working-costs and low charges might soon drive the cable companies towards voluntary liquidation and the sale of their assets to any one who would buy them, with the result that they might easily pass out of British hands. The governments of the empire then woke up to the possibility that however useful wireless communications might prove as an adjunct to cables, they

* [Donald] imperial wireless telegraphy committee 1924. [XII. [2060].

were but a poor substitute ; for they did not share the cables' secrecy. Only a merger of beams and cables could save the cables. For strategic reasons, the fall in charges must be ended, and the beams must be made to carry the cables.

Such a merger might have been placed under a joint inter-governmental body such as the Pacific cable board ; and this would have been in keeping with British and Australian practice. In deference, however, to Canadian custom the merger was placed under a commercial company. While the Gilmour imperial wireless and cable conference was sitting upon the problem in 1928, a merger was negotiated. Imperial and International Communications Ltd. was brought into existence by act of parliament. With its capital of £30,000,000 it took over the outstanding securities of the obsolescent cable and wireless companies, and bought the Pacific and Imperial Atlantic cables from the government at their fast declining market value, thus constituting the first example of the sale of a public service to a commercial concern. It leased the post office's beam stations for a term of twenty-five years at £250,000 a year. Its standard net revenue was fixed at 6 per cent., any excess to be divided between the stockholder, the post office and the user. And, as another anomaly among British public-service undertakings, this statutory company was itself subsidiary to a registered holding company, Cables and Wireless Ltd., which held all its shares and shared all its directors, besides inheriting investment and manufacturing interests from the cable and wireless companies it had absorbed.

Imperial radio communications have thus provided the one important British instance of a public service treated as a defence service. It has been deflected from its normal economic development by considerations of high imperial politics and strategy. It has been turned from the service of the individual to the service of the state. What Britons have seldom or never imitated other nations in doing in the

defence of their hitherto comparatively invulnerable island, they have now done in the defence of an empire that becomes more vulnerable every year. And in making this new experiment they have shown their respect for the private investor and their preference for a London company over a permanent imperial governmental organ.

Imperial, however, as wireless communications have become, they have not failed also to become international. Without the international radiotelegraphic conventions that began in 1906, the S O S signal could not have been sure to elicit the prompt help of ships of every flag. And without an agreement to charge the same rate for all telegrams between European countries, whether sent by wireless or by cable, the telegraph services of these countries would have stood to lose by their national divisions, their unequal services, and the cost and delay that these inevitably inflict upon through messages.

VI. BROADCASTING

As an abstract and universal principle it may be said that broadcasting has nothing in common with postal communications. The nature of a postal service is to serve each individual separately. The essence of broadcasting is the diffusion of identical noises to all and sundry. Americans—and for a while the French—are therefore perfectly logical when they allow competition in the air as well as in the press, and when indeed they bring the air into competition with the press, especially as an advertising medium at the service of those who can afford it. And Germans and Russians are equally logical when they regard broadcasting as an aspect of propaganda and national enlightenment.

British history, however, has a logic of its own. If British broadcasting has provided a model of ordered liberty, equally

remote from Franco-American individualism and from Russo-German totalitarianism, this is due not to the personality of Sir John Reith but to the tendency of laws laid down in the age of Disraeli and Gladstone. The key to the story of British broadcasting lies in the postmaster-general's monopoly of the inland telegraphs, which, according to judicial interpretation, includes the telephones, and therefore must also include wireless telephony, which in its turn includes telephonic radiodiffusion as well as radiocommunications.

It was under licence from the post office that broadcasting first developed in Great Britain. And in this it was following in the steps of the telephone and of wireless communications. Licences were required both for transmission and for reception. A transmitting-licence, dated retrospectively from 1 November 1922, was granted in 1923 to a 'British broadcasting company' whose shares were held and whose six directors were elected by six manufacturing firms so eager to create a demand for receiving-sets that they agreed to limit their dividend to $7\frac{1}{2}$ per cent. Receiving-licences were also sold to all who wished to buy, the receipts being shared half-and-half between the post office and the company. The company trusted the post office to issue broadcast-receiving licences that should limit the listener to the use of sets made in the United Kingdom by the firms that held shares in the broadcasting company; not only would these firms thus have made sure of their profit, but the company was to have reaped a royalty on each of these official sets. This hope was dashed by the post office's unrestricted sale of experimenters' licences, which enabled listeners to break the British manufacturers' monopoly by constructing home-made sets out of foreign-made parts. The resultant increase in the number of listeners was so rapid that the broadcasting company as a company was soon able to reach its maximum dividend; but its shareholders in the capacity of manufacturers were left with a grievance and a yearning for a protective tariff such as could not be obtained

without parliamentary legislation. From the very first therefore the experiment failed to satisfy its promoters.

The same year 1923 as saw the licensing of the broadcasting company therefore saw also a report to the postmaster-general by the first broadcasting committee. In the middle of an experiment, it was too soon for Major-General Sir Frederick Sykes and his fellow commissioners to come to any very helpful conclusion. They gave their blessing to the principle of making the listener pay for his licence until such time as every taxpayer became a listener. They thought that the post office would do well to keep its hands free to license competing broadcasting companies if an increase in the number of operators should seem necessary to please all tastes or raise the standard of operation. And they caught a vision of a future when the control of these operators might outgrow the capability of the post office. 'Broadcasting,' they reported, 'may eventually become so great a national responsibility as to demand the creation of a small paid body of experts to whom (always subject to the postmaster-general) its control should be entrusted.'*

The eventual licensing of rival operating companies, under the regulatory supervision of an expert commission, made no appeal to the post office. Nor did it seem necessary; for it was in the interest of the original company and its constituent firms to arrange its programmes so as to appeal to as wide a range as possible of listeners of the class that could afford their sets. And the number of licence-holders rose to half-a-million in the first year and to two million in four years. The company thus remained in possession of a practical monopoly. Their monopoly did not meet with any great public disapproval. And the press would have roused opinion against any system that might have put broadcasting operators under the financial necessity of competing with itself all along the line—in advertising, in betting-tips, in early

* 1923. X. [1951]. § 24.

stock exchange news, in summarizing its morning leaders, and in issuing morning news bulletins—as was done in France and the United States.

By 1925 Lord Crawford's broadcasting committee was better able to make practical proposals for the future. In its concluding summary this committee recommended 'that the broadcasting service should be conducted by a public corporation acting as trustee for the national interest, and that its status and duties should correspond to those of a public service.' It described with considerable detail the personnel that seemed most desirable in a corporation whose members should be appointed by the postmaster-general for a term of years at a good salary. 'It has been suggested to us in evidence,' it reported, 'that the board should be composed of persons representing various interests. . . . We cannot accept this view, since compromise and even conflict might ensue owing to division of allegiance. On the contrary, we hold that the actual commissioners should be persons of judgment and independence, free of commitments, and that they will inspire confidence by having no other interests to promote than those of the public service. We hope they will be men and women of business acumen and experienced in affairs. . . .' It enlarged similarly on the standing to be given to such a body: 'We feel that the prestige and status of the commission should be freely acknowledged and their sense of responsibility emphasized. We have framed our report with this object constantly in our minds, and we have done so with the knowledge that the state, through parliament, must retain the right of ultimate control. We assume that the postmaster-general would be the parliamentary spokesman on broad questions of policy, though we think it essential that the commission should not be subject to the continuing ministerial guidance and direction which apply to government offices. The progress of science and the harmonies of art will be handicapped by too rigid rules and too constant a

supervision by the state. Within well-defined limits the commission should enjoy the fullest liberty, wide enough to mark the serious duties laid upon it, and elastic enough to permit variation according to technical developments and changes in public taste. It would discourage enterprise and initiative, both as regards experiments and the intricate problem of programmes, were the authority subject to too much control. The aspiration and the public obligations of broadcasting can best be studied by a body appointed *ad hoc*, endowed with adequate taxation, and concentrating on this particular duty. The commissioners should therefore be invested with the maximum of freedom which parliament is prepared to concede.'

Nowhere has the contemporary ideal of an autonomous corporation been drawn with more imaginative moral insight into the British temperament. And in 1926, the year of the general strike, the general principles that this committee had enunciated were carried into effect, with a few small differences. The government paid the broadcasting company a paltry £72,000 with which to reimburse its shareholders the sums they had actually paid up, along with a good £550,000 for the discharge of existing liabilities.

A charter of incorporation was issued under the great seal, without recourse to parliament, establishing the British Broadcasting Corporation. Its object was to be the operation of a broadcasting service under licence from the postmaster-general. In the pursuit of this object it was permitted to acquire land, publish papers, collect news, and exploit copyrights. It was permitted to borrow up to £500,000. Its accounts were to be audited and submitted to the postmaster-general, not to parliament. Its first director-general was named, in order to secure continuity. And the emoluments of its five (now seven) governors were fixed at a scale between £700 (now £1,000) and £3,000.

To this chartered corporation the postmaster-general then

issued a licence containing conditions to which both parties had agreed. The post office agreed to pay to the corporation 90 per cent. of its receipts from the first million licences, 80 per cent. from the second, 70 per cent. from the third, and 60 per cent. from all later licences. Thus the post office would make a profit even after allowing for the cost of collection. And besides its right to take over the corporation's plant in emergencies, this indenture bound the corporation to broadcast any matter which any government department requested or required to be broadcast; the postmaster-general might send a written notice requiring the corporation to refrain from sending certain specified kinds of broadcast matter; and the postmaster-general might require the closing of any station if the defence service were of opinion that their signalling was interfered with. These reserve powers were thus sufficient to make their use unnecessary.

Interest now shifted from the constitution to the administration of broadcasting. During the first ten-year period of the charter, the number of licensed listeners rose from two to eight millions. By the new interest aroused, the press and the theatre gained more than they lost. And on the whole it may be said that the corporation has gone far towards realizing two of the ideals of its begetters. On the high standards required, the Crawford committee had reported: ' . . . the listener is entitled to latitude. . . . At the same time every effort must be made to raise the standard of style and performance. . . . The new authority, steadily but with great patience, must try to improve the standard in each sphere of its activity, especially in music.' And on the broadcasting of controversial matter it had advised: ' . . . speaking generally, we believe that if the material be of high quality, not too lengthy or insistent, and distributed with scrupulous fairness, licensees will desire a moderate amount of controversy. But the discretion of the new authority must be upheld.

Provided the commission is strong and impartial, it will gradually assess the nature and extent of the demand.'

The corporation's virtual monopoly has made it at one and the same time an operating body and the regulator of its own policy. In actual practice it would seem that its governors have made general policy their peculiar province, and left the details of day-to-day administration to their irremovable director-general. If this is what has happened, it would imply that this salaried corporation is approximating to an unpaid local authority's relationship with its officials, rather than to the business status of the electricity and transport boards. The intangible and unmeasurable nature of its services may to some extent have made this development unavoidable. And the lack of any need for business or technical qualifications may have encouraged the government to use too little care in bestowing this patronage—or shall one say these pensions?—with the result that in its otherwise favourable report the Ullswater committee of 1936 thought it advisable to publish a warning against a too great 'homogeneity of age and opinion.'*

* 1936. [5091].

CHAPTER VI

WATER SUPPLY

I. PROVINCIAL WATERWORKS

EVERY landowner in England has long had a right to the water that lies under his land or that flows alongside it. And if he likes to give or sell part of that water to other people there is none to say him nay. But water flows both under the land and alongside it; and one landowner might easily extract water to which some other landowner also had a right. Only parliament could permit such an interference with property rights as was inseparable from water rights. Most of the water companies that wanted to supply early-nineteenth century towns with water therefore went to parliament and asked for private acts. And in these acts they obtained power also to lay water mains under the public highway, and levy a charge on every customer in the form of a water rate.

The growth in the demand for water suggests that that age was an age of nascent hygiene, when town dwellers were becoming increasingly conscious that health depended largely on cleanliness. Nor was it only the cleanliness of the person that mattered: the cleanness of the environment also began to seem desirable. The Buccleuch royal commission on the health of towns marked an epoch when it reported in 1845 that the local authority needed water for cleansing streets and flushing sewers, and that therefore the local authority would be the most suitable retail distributor of water, even though it might buy its supply wholesale from some company. A local authority moreover could be allowed, as a commercial company could not, to levy a compulsory water-rate on every

occupier, whether or not he was willing to pay for a supply, so as to leave him with no excuse for not using water.

The chief immediate effect of this new realization of the sanitary importance of water-supply was that water companies were put under new obligations to the public whenever they came before parliament for new powers. Thus if any water company had the waterworks clauses act of 1847 embodied in a subsequent private bill, it was compelled to supply water to any occupier or owner who was willing to pay for the installation, including the cost of road-breaking and remaking, so long as this customer was willing to pay an optional water rate proportioned to the annual value of his tenement. This meant that the company would be expected to maintain sufficient pressure to drive its water up even to a top-floor tenement. Ten per cent. was fixed as a 'prescribed rate' of dividend, which must not be exceeded, although a reserve fund might be earmarked for keeping dividends up to the prescribed rate. This original waterworks clauses act was followed by others, and as company after company was brought within them, the range of limitations and obligations was continually being extended. On later capital issues, the prescribed rate of dividend was often no more than 7 per cent. And later acts often compelled the companies to deliver a continuous supply from the main, Sundays as well as weekdays, so as to obviate the necessity for insanitary storage-tanks, although this would compel the companies to employ additional labour and install sufficient plant to meet the maximum morning demand, when every housewife at once was drawing on their supply. In ways such as these the water companies were thus compelled to serve the general public as well as their shareholders.

While water-purveying companies were thus being taught their duty to the public, great progress was also being made in the direct public provision of this public service. It was the new borough of Manchester that first levied a compulsory

public rate to pay for its water supply in the 1840's, besides charging its actual customers a contract price if they were commercial users and a domestic water rate if they were domestic consumers. And under the general public health acts consolidated in 1875 it became lawful for any district council to supply its own ratepayers with water, without obtaining a private act.

While some municipal services were thus built up from small beginnings, others were purchased as going concerns, especially after the municipalities developed their great borrowing powers in the late 'seventies. Glasgow for instance had substituted a supply from Loch Katrine for Clyde water in 1859. And when Joseph Chamberlain bought the Birmingham waterworks in 1875, the growing consumption of water enabled the city to earn a small profit, although he had agreed to pay the previous owners perpetual and unredeemable annuities, equivalent to 7-8 per cent. on their shares, together with an allowance for deficiencies in earlier years. Wherever a company's limits of supply had stretched outside a municipal area, the municipality now supplied other users besides its own ratepayers. In all such places its right to make a profit for the relief of its own rates had therefore to be statutorily limited: it was obliged to retail its water at cost price, without so much as a small additional charge for the risk it inevitably ran in installing plant ahead of demand. Yet such limitations as these did not impede the progress of municipalization, whenever the scene was dominated by a single urban authority. 'It probably has been one of the most important branches of private-bill legislation during the past fifty years—the gradual transfer to municipal bodies of undertakings owned by companies for the supply of water,' was the opinion of parliamentary counsel in 1902.*

Outside the great towns it was different. Here and there

* H. L. Cripps, before joint select committee on metropolitan water, 1902, VI. (222). p. 199.

some company or rural district council might take advantage of an easy coal supply and build waterworks. But the countryside generally continued to draw its water from wells and pumps rather than from pipes. Disraeli's public health (water) act of 1878 made it the clear duty, however, of every rural district council at least to make sure that every occupied dwelling house had a sufficient supply of wholesome water within reasonable distance. Not all rural district councils fulfilled this duty, even if only by compelling the house-owner to provide an adequate supply. Fifty years later, attempts were made to remove the financial excuse for their inaction: county councils were empowered in 1929 to offer financial and engineering aid, and in 1934 parliament voted a grant of £1,000,000 in aid of rural water supply. Without such aid as this, the country dweller could not come in sight of the town dweller's standards of water consumption. It was rising consumption rather than deepening drought that lay behind the countryside's growing realization that it was short of water.

In the towns, too, the consumption of water had increased with more rapidity than the number of consumers. It rose not with the number of babies but with the number of baths, water closets and hot-water systems. It rose, too, with an increase in its own purity, as bacteriology made river water safe, although no standard of wholesomeness has yet been prescribed by law. And it has been Britain's good fortune to have a moist enough climate for the constant replenishing of her rivers and her upland gathering-grounds, to say nothing of the water table in the permeable deposits between her strata of clay.

Of the 40,000,000 inhabitants of England and Wales to-day, some 7,000,000 are without a public water supply, though not necessarily without any water at all, while the remaining 33,000,000 get their water from one thousand statutory undertakings. More than half of these public undertakings

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are local authorities in use of permissive powers under general public health acts ; more than a quarter are local authorities acting under a local act. Less than one-fifth are profit-making companies ; these serve only 6,000,000 persons in England and Wales ; and the fear of expropriation, aided by the resources of bacteriology, has shaken this remnant free from the suspicion of irresponsibility and negligence that did so much to inspire municipalization in the nineteenth century.

II. METROPOLITAN WATERWORKS

Capital and country seldom march in step. In England this is very noticeable in the development of water-supply. In the provinces the course of evolution was steady and unsensational : in the metropolitan area it involved inquiries by more than a dozen royal commissions and select committees in less than a hundred years. In the provinces it was practical considerations that governed the progress of municipal enterprise : in the metropolis great questions of high principle were in constant debate.

London was exceptionally early in shaking off its medieval dependence on natural springs and fountains, courtyard wells and conduits from the bourns. In 1582 a Dutch undertaker began to supply the Londoner with water raised up from the Thames ; and by 1619 a Welsh gentleman turned goldsmith, with King James I as sleeping partner, undertook to relieve the City of its right to bring down water from Chadwell and the other sources of the Lee in Hertfordshire by an aqueduct, ' by gravitation, after the manner of the ancients.' With the subsequent subdivision of its shares, this partnership soon expanded into the New River Company, the oldest commercial purveyor of water in England.

When the expansion of the metropolis outside the City became noticeable, parliament began in 1806 to sanction other

companies, in the hope that by their competition they might stimulate the New River company to provide a better service at a lower price. Even the Grand Junction Canal Company started a subsidiary company for the sale of canal water.

Competition led speedily to informal arrangements between the companies not to compete for custom in new districts. A fall in the price of water was soon succeeded by a rise, in the hope of making up for the profits lost during the few short years of competition. And by 1821 a select committee was inquiring into the failure of competition to prevent high prices.

It was not only the price that was high. The water was also foul. The fish in the river were dying, the Thames fishermen fell out of work, a water-company director had a death-bed repentance, and from 1828 onwards Telford was inquiring into the possibility of utilizing some upland gathering-ground as a more salubrious alternative to the Thames. From 1829 onwards, under the pressure of public and parliamentary opinion, settling-reservoirs with sand filters were erected by the companies; but not much of the pollution could be adequately treated by this purely mechanical means. Some was chemical, thanks to the rise of factories. Most was organic, thanks to the sanitary engineers whose water-carriage systems fouled the river with the excreta that in the days of the earth closet and then the cess-pool had been sold to manure the markets gardens. The new paddle steamers that plied profitably upon the Thames from the 'thirties to the 'sixties gave help to the tide in stirring up the filth of the river. Water-borne cholera raised scare after scare among the panicky millions of the metropolis. The new houses of parliament, the new government offices in Whitehall, and the new fountains in Trafalgar Square showed plainly their feelings towards the companies' water when they chose to bore their own artesian wells. Chadwick's general board of health reported in 1850 in favour of a completely fresh start, with an

autonomous government-appointed commission to bring down water from the Bagshot sand. A 'London sanitary association' launched an agitation that same year with the slogan: 'The public health a public matter.' John Stuart Mill lent the support of his name to the slogan, although he thought the exact way in which this end was to be attained a mere detail of public policy rather than a question of economic principle.* The government thought likewise. It did not accept Chadwick's plan. But it did agree that the companies ought no longer to remain completely free. They ought to be bound by what was called a contractual arrangement. That is to say, parliament was to come to terms with them for the statutory regulation of their charges and dividends, and the constancy and quality and source of their supply.

Now this was easier said than done. A whig bill of 1851 would have amalgamated all the companies, and obliged the new company to comply with various conditions on pain of being superseded; but the tory opposition was reinforced by a combination of radicals who protested that it would still be the same old monopoly, and shareholders who objected that their dividends were not guaranteed. So the nine companies remained. The working monopoly of each company in its own district was recognised by private acts in 1852. A general act of the same year said that they must give a constant instead of an intermittent supply—but only on a written demand from four-fifths of their customers. But this initiative was not forthcoming. Customers would not trust commercial companies with the right of inspecting their houses to check water-waste. And they also suspected that a constant supply, Sundays as well as week-days, might make the poor more eager to give up the public pump in favour of a private tap in the yard of each house or on the landings of each block of tenements, at the expense mainly of other classes who would

* Cited in H. of C., 29 April, 1851.

then be called upon to pay a compulsory rate—which again they did not trust a joint stock company to fix.

The contractual arrangement having proved an unattainable illusion, there seemed no alternative to public ownership. The great Richmond royal commission on London water reported on this possibility in 1869. Sir John Simon, medical officer of health to the City and chief medical officer to the privy council, an eloquent but muddle-headed Coleridgean, set the tone to the inquiry when he testified: ‘The tremendous danger to the population is the introduction of human sewage with the germs of contagious disease in it. It is of course an entirely new thing in the history of the world, this power that water companies have, to distribute the germs of disease in this way. . . . This power of life and death in commercial hands is something for which, till recently, there has been no precedent in the world; and even yet the public seems but slightly awake to its importance.’* In those days of blind man’s bluff, when bacteria had not yet been discovered or disinfectants invented, such moralizing provided an easy escape from the shortcomings of science. And the royal commission reported in the same sense. As this was the first occasion on which such a body deliberately advocated the public ownership of a public service, its arguments constituted a milestone in the march of public opinion if not of law. It reported:

‘In a matter of such vital importance to the health of a large population, we consider that it becomes a serious question in what hands the control of the water supply should be placed.

‘The duty of supplying the inhabitants of a city with water has from a very early period been regarded as a peculiarly municipal function: and the supersession of the municipalities by joint-stock companies is a comparatively modern innovation. . . . But of late years many towns in England

* 1867, in 1869. xxx. Q. 2838.

have come to the conclusion that the new practice was a fundamental error, and have resumed the ancient principle by taking the control of the water supply again into their own hands.

‘The expediency and advantage of consolidating the water supply under public control are manifest on many grounds.

‘In the first place such a measure affords, we consider, the only effectual means of carrying out, in the metropolis, the system of constant supply. . . . We conceive the difficulties of introducing this system would be too great to be efficiently overcome by private companies, inasmuch as the great powers necessary for the purpose could only be confided to some public body who would be responsible for their proper application. . . . The inhabitants would be much more likely to fall in with the rules and arrangements established by a public body having no independent interests, than with those made by commercial companies.

‘Secondly, this measure would offer the best mode of ensuring a proper supply to the poor. . . . For a public control would involve compulsory rating, under which all difficulties of a financial nature, which are the only ones really formidable, would necessarily disappear.

‘Thirdly, we believe that the consolidation of the various present interests would tend largely to economy. . . .

‘Fourthly, the transfer would tend to improve the quality of the supply, not only by checking the tendency to general abuses, but in particular by ensuring more effectual filtration, which is greatly needed, and which it appears difficult to enforce under the present system. . . . The neglect of the companies to comply with the provisions of the law . . . calls either for a more stringent control, or for a more effectual change. If the frequent examination and testing of the water, under public management, showed at any time that the filtration was inefficiently carried out, the public, instead of uselessly

complaining as heretofore, would have the remedy in their own hands.

‘Fifthly, the change of ownership would increase the probability of beneficial results from . . . measures . . . enacted for the purification of the Thames. . . .

‘Sixthly, this measure would much facilitate the provision of water for all public and municipal purposes. . . .

‘But independently of these advantages, we believe the public management to be far more correct on general principles than the supply by joint-stock organization, which is obviously only applicable to those cases in which a fairly remunerative return may be anticipated for the capital expended. But a sufficiency of water supply is too important a matter for all classes of the community to be made dependent on the profits of an association.

‘We are hence led to the conclusion that future legislation should restore the ancient practice. . . .

‘Under this system it would be necessary to abolish the voluntary buying and selling arrangement now subsisting between the consumers and the companies, and to adopt the plan of compulsory rating. . . .’*

Thus the principle of public purchase was enunciated and widely accepted. But a whole generation was to elapse before any generally acceptable means could be devised for putting the principle into practice.

Sir Assheton Cross, Disraeli’s great home secretary, who had already distinguished himself by the passage of the first slum-clearance act, threatened the companies with a bill for the compulsory purchase of their waterworks. With this threat hanging over their heads, it was not difficult for a surveyor to negotiate an agreement with them on his behalf, especially when the argument was used that of course the conservative party would not be in office for ever.† This

* 1869. xxx. ss. 245-250.

† [Harcourt] select committee, 1880. x. (329). s. 40.

voluntary agreement provided for converting the companies' shares and debentures into $3\frac{1}{2}$ per cent. government water stock of a nominal value of £33,000,000. Everyone agreed that this was several millions more than the current market price of the stock. For some small consideration had been given to the shareholders' claim to back dividends, although in some companies this stretched back into a past that was now somewhat remote, while in most cases the claim was bound to be ill-defined, as nine-tenths of the stock of the London companies had been raised before a prescribed rate of interest had been defined in the waterworks clauses acts.

A liberal majority could be relied upon not to endorse an agreement that appeared so favourable to a vested interest. When Gladstone succeeded Disraeli next year, a select committee under Vernon Harcourt's chairmanship therefore recommended an alternative scheme. They proposed to set up an *ad hoc* authority, or quasi-municipality as it was then sometimes called. A water authority was to be elected by the metropolitan board of works, the city of London, and various other local authorities within the limits of supply of the metropolitan water companies. This authority would then have been given a free hand to negotiate the best agreement it could, under threat of breaking the companies' monopoly by using its power of compulsory rating to provide an alternative and competing supply. This plan also failed to arouse public confidence; for such an authority would have been responsible to the majority of ratepayers only indirectly at two removes, as the metropolitan board of works was itself already indirectly elected.

The creation of the London county council under Ritchie's act of 1888 brought a new factor into the problem. The greater part of the rather small Greater London of those days now had a municipal authority directly elected by its ratepayers for the first time in history. And the fierce party struggle for control of the new council aroused the first faint

beginnings of civic patriotism and corporate shame in what Cobbett had called the Wen. This London county council soon promoted bills to enable it compulsorily to buy up the London water companies on terms favourable to itself. But these bills brought parliament face to face with the same practical problem as in many previous cases of municipalization : the companies that were to be municipalized had wider limits of supply than the boundaries of the municipality. To cut off these adjacent areas seemed too expensive to be practicable. And to bring them all under the same hat would have been an assault on their individuality, and seemed especially unthinkable if that hat was to be the London county council. Harcourt's revived alternative of an indirectly elected water authority seemed just as distasteful, for it would now have been dominated by the London county council.

Meanwhile the argument in favour of public ownership was growing stronger every year with the increasing public demand for water. A royal commission in 1900 confirmed the conclusions of the royal commission of 1869. 'The magnitude of the future requirements of London, in regard to water supply,' it reported, 'leads to the conclusion that the concentration of the water undertakings into the hands of one authority is desirable. Not only will large expenditure be necessary in the immediate future, but . . . this expenditure is likely to be less remunerative than similar expenditure in the past, and . . . supplies will be more expensive. A turning-point has been reached in the conditions governing this supply. The companies have for years been working on a tide of prosperity, and their profits have, generally speaking, steadily increased. We have to ask ourselves what would happen to the companies if the necessity arose for large expenditure probably unremunerative during some time, with the consequence of reduced profits and reduced dividends. The directors, having before them the double duty of safeguarding the interests, on the one hand of the shareholders and on the

other hand of the consumers, would be placed in a difficult position, which might lead to results unsatisfactory to the consumers; whereas a public authority, having acquired the undertakings, will be likely to have no other object in view than to satisfy the requirements of the consumers.*

In Walter Long's metropolis water act of 1902, the conservative government cut its way out of the impasse. The 'metropolitan water board' which they called into being was indeed to be indirectly elected, but district councils and county councils were both to be represented upon it, and, above all, the newly-christened metropolitan boroughs were to be strongly enough represented to enable them to outvote the hated London county council. The result was a colossal board of sixty-six representatives of local authorities, a board as big as any local authority, and working through committees in much the same way as any local authority. Its members were to be elected for three years; it was not obligatory for them to be members of the councils that elected them; but, if they were councillors at the time of their election, they would lose their seat at the board if they lost their seat on the council. They were given a power, which they have not used, to choose a chairman and vice-chairman from outside their own number. And instead of employing a general manager, they relied for the co-ordination of their various sections on the services of their chairman, to whom they were therefore empowered to pay a salary, which would not however give them a claim to his full-time services. It would have been surprising if such an organization had succeeded in producing the economies that had been expected to flow from unification.

The finances of the board were doomed from the first. It was called into being because profits were about to fall. It was called upon to pay not only for the expanding costs and contracting profits of the years to come, but also for the low costs and expanding profits of the years that had gone.

* Royal commission 1900. xxxviii. [25]. p. 51 sq.

‘The companies have, upon the whole, performed their duties to the public satisfactorily and well,’ said the royal commission in its *nunc dimittis*. ‘Most of them have gone through periods of struggle and difficulty, during which the shareholders ran considerable risks and received inadequate returns for their money. Some have now reached, and others are approaching, a more prosperous condition, by the help, no doubt, of great privileges which parliament has given them. We see nothing which leads us to suppose that, if these undertakings are compulsorily purchased for the public advantage, parliament will sanction any exceptional provisions, or depart from the terms of arbitration usual where the property of private persons is to be taken from them against their will.’* The future yield of water stock was as much overestimated in 1900 as it had been underestimated twenty years earlier; for at both dates the market misjudged the new capital expenditure that would be needed in the near future. The market price of ordinary shares alone of a nominal value of £10,000,000 had now soared to £32,000,000. When to this was added loan capital and minor expenses, the total cost of acquiring the metropolitan waterworks amounted to no less than £43,000,000. To raise so large a sum, the new metropolitan water board had to issue water stock at a discount, to a nominal total of £49,000,000. Seldom has any undertaking begun life with so colossal a burden of debt, or so sure a certainty that its supplies would rise in cost. By 1921 its right to a ‘water rental’ of one shilling in the pound on the rateable value of its domestic consumers proved inadequate to meet its increasing costs, especially now that their inevitable rise was inflated by the wartime rise in prices. A ‘deficiency rate’ became necessary. And the ‘water rental’ to which the board had a right had to be raised to 1/8 in the pound.

* *Ibid.*, p. 20.

CHAPTER VII

LIGHT AND POWER SUPPLY

I. GAS

GAS, like water, has hitherto been regarded as a local supply service. Unlike water, however, it did not directly affect the public health, or call for compulsory rating. For this reason the public demand for municipal purchase was less insistent and less generally successful.

Individuals, companies and local authorities began to manufacture coal gas soon after 1800 and supply it to large consumers such as local authorities for the lighting of streets and offices. In the metropolis, for instance, the Gas Light and Coke Company was incorporated under a twenty-one-year charter in 1810, with power to manufacture and sell 'inflammable air, coke, oil, tar, pitch, asphaltum, ammoniacal liquor and essential oil from coal,' and 'to make contracts with any commissioners or directors or trustees having the contract of the lighting of any of the parishes or extra-parochial places within the cities of London or Westminster or the borough of Southwark.' In the manor of Manchester, on the other hand, the police commission, an *ad hoc* authority responsible for street-lighting, built its own gasworks in 1817; with Matthew Davenport Hill as counsel, it prevented parliamentary sanction from being given to competition by a somewhat corrupt company; and thus it set from the very beginning an example of a gas undertaking that had never been anything other than a municipal monopoly.

Statutory sanction was not required for a gas undertaking, unless it was desired to purchase a site for gasworks compulsorily, or to make sure of the right to dig up the road and lay gas pipes within a certain area. When granting these rights,

parliament usually imposed some corresponding restrictions, the most important of which were crystallized in the gasworks clauses acts of which the first was passed in 1847. One of the most important of these checks was the limitation both of prices and of dividends. Maximum prices would be prescribed in the statute, and a maximum dividend of 10 per cent. or less. Another check, in the hope of allaying the rampant public suspicion that companies might swell their profits by supplying gas of poor quality, was the power granted to 'all trustees, vestries, commissioners and public boards,' to appoint a chemist to test the quality of the gas and make sure that it came up to the statutory standard.

The chief check, however, was the possibility of competition. Parliament seldom granted a statutory monopoly to any but a publicly elected authority. Such local monopoly as any company achieved was precarious and was due entirely to its being the first on the road. Such competition was rare but real. In the metropolis, for instance, a 'consumers' gas company,' was established in the 1850's, and it succeeded in forcing down the prices and profits of the old-established companies. It succeeded indeed too well; for after a brief orgy of competitive cheapness it paved the way to 'districting arrangements,' under which the companies agreed not to compete with one another in certain districts. 'Competition becomes combination,' said a London witness before a select committee in 1859. Nor did districting stop short at a private arrangement. It was sanctioned by parliament in the metropolis gas act of 1860, 'in order to economize capital and avoid the too frequent opening of the public streets,' on condition that the metropolitan companies should submit to the gasworks clauses act and keep their prices and maxima within its liberal statutory limits. Parliament still conferred no absolute monopoly; but it encouraged and safeguarded a *de facto* monopoly. London gas was thus given the same privileged position in 1860 as London water had received in

1852. Gas, water and railways all prove that this was a time when economist, capitalist and parliamentarian were all learning that combination was more economical than competition.

The metropolitan consumer, however, did not get the benefit of these economies. While dividends soared up to the statutory standard, the consumer clamoured for lower prices and better quality. He found a voice in the new metropolitan board of works, and hoped that by threatening renewed competition through this public authority he might drive the companies to submit to more stringent regulation. With gas as with railways, in fact, the transition from competition to combination was leading to a demand for regulation.

This decisive step was marked in the case of gas by the report of a select committee with Cardwell in the chair in 1867. It resolved: 'That the supply of gas in London ought to be controlled in favour of the consumer, either by the means of an effective competition, or, if the system of an exclusive supply be maintained, by the means of efficient regulation. . . .

'It is evident from the nature of the case, that the possibility of introducing competition in respect of gas is qualified by circumstances which restrain it within even narrower limits than those which apply to other large incorporated undertakings. The difficulty of finding room for mains and service-pipes in the already crowded line of the streets, the public inconvenience of frequently disturbing the pavement, the objections usually entertained by the inhabitants of populous districts to the introduction of new gas works, etc., all are obstacles in addition to those which are connected with the raising of the capital required for so great an undertaking as that of supplying with gas any large portion of the metropolis.

'It seems to your committee therefore that the consumer cannot rely upon the probable introduction of new companies in competition with the powerful organization whose existence

has been confirmed by the act of 1860, and that if the consent of the companies to a proper amendment of that act cannot be obtained, the proper remedy will be for parliament to concede to the city of London, the metropolitan board of works, or other local authorities of the respective districts, the power of supplying those districts in the manner in which the corporation of Manchester supplies that city and the surrounding neighbourhood.

‘If it shall be urged on the part of the companies that it would be hard to compel them to compete with a public authority, the sufficient answer, in the judgment of your committee, will be that they have brought the competition upon themselves by rejecting reasonable terms, and that it would be unjust to the consumer that he should continue subject to monopoly, and not be provided with the safeguard of effective regulation. . . .

‘Your committee . . . recommend that unless terms satisfactory for the consumer can be arranged with the companies, . . . every facility should be afforded to the local authorities of the metropolis in the session 1868 for the introduction of an independent supply.’*

This threat of rate-aided competition induced the London gas companies to get new acts from the liberal majority in parliament during the next few years for the revision of their maximum prices. When the maximum dividend was reached, it was no longer to be possible for a London company to keep its prices high and squander its surplus profits in nepotism and extravagance. Its maximum price was to be subject to discretionary revision by commissions appointed by the board of trade at the request of the local authority. These commissioners were, at their discretion, to fix the maximum price which they considered necessary for yielding a divisible profit of 10 per cent. and a reserve fund of 5 per cent. with reasonable care and management.

The importance of this first attempt at regulation was that

* [Cardwell] select committee, 1867. XII. (520). pp. xii, xv.

it paved the way to a more durable system. It did not itself survive for long ; for it was open to two radical objections. It involved arbitrary revision ; and what is arbitrary is always liable to be judged unjust. And the revision was in one way only : it provided for the reduction of prices below the 1860 standard when dividends rose high, but not for their increase above that standard when costs climbed and dividends fell. Besides being arbitrary it was therefore apt to look unfair. Nor was this point an academic one. Gas costs did actually rise in the post-war boom and coal famine of 1872-74. Dividends did fall. And the gas companies naturally said that it shocked the conscience of the country that increased costs of production should have to be borne by the capitalist, while reduced costs of production redounded to the benefit of the consumer.

This dissatisfaction led to the most interesting experiment in the history of the gas service. Parliamentary opinion veered towards an automatic 'double-acting sliding-scale' in the place of arbitrary one-way revision. As prices rose, dividends should fall ; but as prices fell, dividends should rise. This principle was already being embodied in some few private gas acts for provincial towns. In 1875 it found converts both at the board of trade, then under conservative presidency, and on a select committee under the liberal chairmanship of Forster. 'As we have not got in this trade the general check of the stimulus of supply and demand, we must attempt to replace it by some other motive,' said Forster ; 'and the contention seems to lie between the existing machinery, which is a revision by gentlemen as competent as can be found, and that proposed by the bill : that is to say, a fine if they charge a high price, and a reward if they charge a low one.' New standing orders in 1877 permitted private-bill committees of the House of Commons to insert this provision in future gas bills. By this unique device it was hoped that the interests of

gas-producers and of gas-users might be automatically harmonized.

From this time onwards the gas companies began to approximate little by little to two principal types. On the one hand were the companies whose acts incorporated the principles of the old act of 1847, with its maximum prices and maximum dividends. On the other hand were the sliding-scale companies which came under the new standing order of 1877. Both systems were thrown seriously out of gear by war-time inflation, which took the price level out of the control of the companies; and as an emergency measure, which had a counterpart in the dividends guaranteed to railway shareholders in 1914, the statutory undertakings act of 1918 allowed a temporary increase of charges, so as to guarantee the shareholders their standard dividend or three-quarters of the pre-war dividend, whichever happened to be the lower.

For the first hundred years of its history, the most interesting aspect of the gas service was its legal and constitutional status. But towards the end of the century, its economic struggle for survival and its adaptation to new economic circumstances took pride of place. From 1882 onwards, gas lighting found a rival in electricity. Its monopoly was doomed—doomed not by legislative enactments but by scientific discovery and technical invention. If gas production has quadrupled between that day and this, it is not only because the market for which gas and electricity have been in competition has been a rapidly expanding one. It is also because gas gradually staked out a claim to heating instead of lighting as its special province. Its survival for some years as a lighting agency was due mainly to the replacement of the flat flame by an incandescent mantle raised to a white heat. The gas cooker, the gas fire and gas for industrial heating became little by little the chief bases of the industry's prosperity. It provided fuel on tap. And a calorific standard of so many thermal units was gradually substituted for an illuminating standard of so many

candlepower as the statutory standard of quality, especially during the war years when gas was robbed of its illuminating power by stripping it of the chemicals most useful in war.

Big industrial consumers now seemed worth attracting by specially low prices : small domestic consumers, half of them with slot meters, came to be regarded as comparatively unprofitable clients, who required more service for less gas, and ought therefore to be charged a higher price. Instead of raising or lowering the dividend with each fall or rise from the ' standard price ' of each unit, there was now something to be said for raising or lowering it proportionately to each fall or rise below or above the ' basic revenue ' of the concern as a whole. This new version of the sliding-scale has been gradually introduced in private acts from 1920 onwards. And instead of being directly related to the highest price paid by any consumer, it has borne more relation to the average price paid by all consumers.

II. ELECTRICITY

An island that is rich in cheap coal, but can boast no Niagara, no Alps and no Fiords, is ill-placed for being a pioneer in the development of electricity. Here, if anywhere, Britain ought to have been able to profit from the proverbial blunders of the pioneers. Yet there is little evidence to suggest that this has happened. On the contrary, she has done her own pioneering. She has learned from her own experience and her own mistakes. And that is no doubt what every country does when it tries to catch up with those who had an earlier and a better start in any race to provide a useful service. For the utility of any service depends on its suitability to local conditions. And the constitutional cradle within which it begins its life must inevitably vary from land to land, and often prove unsuited to its later growth.

The constitutional history of electricity in Great Britain

is the story of the gradual adaptation of organization to the possibilities opened up by the latest advances in engineering technique. In no other public service is this intimate connection so plainly visible.

At its first beginnings, in 1882, electricity was envisaged only as a local supply service, such as water and gas, whose chief value was as a potential competitor with coal gas as a lighting agent. The electric lighting act of 1882 therefore empowered the board of trade to license companies and local authorities to supply electric current for illumination within a certain area. The electric-lighting 'order companies,' like the tramway and telephone concerns that were coming into being at the same time, were given only a limited lease; for the local authority was empowered to purchase the electric concern compulsorily after twenty-one years, at the then market value of its land and plant. This inevitably hindered the investment of capital in the most up-to-date plant. Nor was efficiency effectively encouraged by extending the lease to forty-two years in 1888. For liability to purchase by a local authority had the effect of limiting most electric lighting companies to the area of a single authority.

Soon, however, it became possible to utilize electricity as power, and to transmit it over greater distances. From about 1898 onwards, a number of electric-power companies were therefore set up under private act of parliament, with unlimited tenure. On the north-east coast and in a few other districts where this happened, some of the local authorities and local lighting companies then found it cheaper to buy their electricity in bulk from a statutory power company, and confine themselves to retail distribution; where no other distributor existed, a power-supply company would sometimes get an order enabling it, or a subsidiary electric light company, to act as retail distributor, although to this extent it would thus become liable to municipal purchase and therefore to disruption. So most of the five hundred public

electricity undertakings remained small and expensive. Municipal privileges stood in the way of electrical expansion. And British manufacturers preferred to rely on cheap coal or a well-established gas supply. Or, if they wished to use electric power, they installed their own private plant instead of becoming dependent on a public undertaking which they did not yet consider reliable.

The need for a better public supply was learned during the war. An electric wire was the easiest, cheapest and safest way of transmitting power. Most new munition-factories made the fullest possible use of electricity. The sales of the public undertakings were doubled: they made as much progress in four years of war as in thirty-two years of peace. In preparing for 'the war after the war,' ministers fell over one another in publishing an unprecedented spate of no less than four reports from departmental committees during the last twelve months of war. And in one particular at least they were all agreed: electricity would have to be re-organized on a national instead of a local scale.

It was the Merz report of the coal-conservation sub-committee of the re-construction committee that first gave authoritative acceptance to the principle of reconstructing electricity supply on a national scale under a board of electricity commissioners. The board of trade meanwhile was thinking out a double electrical approach to trade expansion after the war. The Parsons electrical trades committee stressed the impossibility of developing British electrical manufactures to the same pitch as the German until a bigger home demand had been ensured by improving the supply of electrical power. And the Williamson electric power supply committee stressed the help which industrial production generally might derive from economies, both in running costs, if cheaper electricity facilitated mechanization, and in capital outlay, if capital did not have to be sunk in private generating plant. The committee was asked what steps should be taken

‘to ensure that there should be an adequate and economical supply of electric power for all classes of consumers in the United Kingdom, particularly industries which depend upon a cheap supply of power for their development.’ And the national though not the local side of the reconstruction scheme which it outlined became the basis of the electricity supply act of 1919.

For the general strategy of future development in the country as a whole, a board of expert electricity commissioners was appointed by the board of trade—later the minister of transport—under this act. To them were transferred the regulatory powers of the treasury and board of trade which they were henceforward to use with an eye to technical efficiency as well as public safety and sound finance. And this efficiency they were to achieve by mapping the country out into districts, and seeing to it that in each district no new developments in this rapidly developing service should be sanctioned unless they fitted in with the commissioners’ schemes.

On the actual organization of supply, however, within each district, no such general agreement existed, and no similar action was taken. The Williamson committee proposed that district electricity boards, representative of consumers and distributors, should compulsorily acquire all generating stations and main transmission lines, with the consent of the commission. But a committee of the ministry of reconstruction reported that little would be gained by re-organizing supply on a district basis. It was therefore natural that the House of Lords could not find time to discuss this controversial proposal for compulsory district acquisition, when it passed the rest of the act in the last days of the 1919 session. In the next session no progress was made with a bill for filling in these gaps. In very few districts were joint authorities set up voluntarily. And the commissioners were therefore left planning in the void, with no certainty that

anybody would ever carry out their schemes for co-ordinating the supply services within each district.

The working of this truncated system was inquired into during the coal crisis of 1926 by the Weir electrical energy committee, of which Sir A. Williamson, now Lord Forres, was a member, in a report which the minister of transport considered too technical to merit presentation to parliament. On the electricity commission under the chairmanship of Sir John Snell, it showered two-edged praise. 'Great Britain is unique,' it said, 'in having a body of men who, for over five years, have devoted their entire energies, their patience and their technical and administrative ability, to investigating the detailed conditions of this industrial and public service throughout the country. The commissioners in fact have functioned as an expert committee carrying out a continuous investigation.' For their lack of compulsory powers it had nothing but criticism. 'The electricity commissioners,' it said, 'were left with very inadequate powers, being required in fact to secure the requisite co-operation and co-ordination by mere powers of suasion. Five years of patient and capable effort have been unavailing. Co-ordination has not been achieved. The [district] advisory bodies created under the act have agreed on technical schemes. Delay and procrastination are widespread, and the policy of suasion can only be written down as a failure.'*

Yet mere regional grouping would now have been out-of-date; for interconnection between areas as well as within areas had now become possible. The committee therefore did not revive the ill-fated suggestion of the compulsory acquisition of generating stations by district boards representing distributors and consumers. Their new constructive suggestion was for a central electricity board to be interposed as universal middleman between producer and distributor.

* [Weir] report of the committee appointed to review the national problem of the supply of electrical energy, 1926, not presented.

At a cost of some £25,000,000 it should build, and then operate, a 'gridiron' of high-tension transmission-mains for inter-connection. And it should buy the whole output of a small number of efficient and economical 'selected generating stations.'

This proposal was carried into law in the electricity supply act of 1926. A central electricity board was appointed by the minister of transport after consultation with various interests. It was composed not of men of science but of men of affairs. It found its first full-time chairman in Sir Andrew Duncan, an economist with exceptionally varied business experience in Britain's basic industries. And with him were seven other salaried members, appointed for terms of from five to ten years. Its business transactions were not subjected to public scrutiny. In order to avoid treasury control, the board's loans were not accorded a treasury guarantee; instead, the board's solvency was secured by allowing it to pay interest out of capital and capitalize its sinking-fund payments during the years of heavy expenditure that must elapse before the completion of the grid. But every scheme this operating board embarked upon was subjected to the approval of the electricity commission, whose engineers remained responsible for outlining the general picture to which all future developments would have to approximate.

This board of business men did all that was expected of it. While covering Britain with the pylons of its grid, it also standardized frequency at a cost of over two millions. By its capital outlay in these directions, it saved the industry from capital outlay in other directions: by pooling the resources of all the public producers, it freed each individual generating undertaking from the need of having its own reserve plant for use in such emergencies as the breakdown of supply or the sudden expansion of demand. It also tended to reinforce the commissioners' gentle pressure, and effect some reduction in operating costs, by buying the bulk of its current from the

most efficient and economical selected generating stations, to which full-time working could now be restricted. And the total sales of the board were trebled during the first ten years of its existence, in spite of a depression that retarded electrical development in most other countries.

The whole supply of electric current thus passed through the board's accounts, and much of it passed over the board's grid. Yet the board itself was neither a producer nor a distributor. It kept the five hundred old undertakings alive, either by buying from them, or by selling to them, or, more usually, by engaging in both transactions at once. In places where an undertaking's generating-station was efficient enough to be selected by the board for full-time working and the purchase of all the current it could produce, the distributing side of the undertaking had little if anything to gain, and has in some places had something to lose, from the interposition of the board. In other places, however, that were less well provided, a small undertaking might find it cheaper to buy its electricity in bulk from the grid, go out of business as a producer, and confine itself to distribution. Any savings that the grid thus made in the cost of supply would be passed on to such a distributor, though they would not necessarily reach the public. This probability was fully anticipated by the Weir committee. 'We would emphasize the fact,' they said, 'that the existence of the "gridiron" adds definitely to the value of existing rights. To-day distribution is a practical monopoly: under our proposals the commodity to be distributed will become available to the monopolist at lower prices, and, therefore, his monopoly will become more valuable.*' Had it been otherwise, the Weir committee and the government would have had the retail distributors in arms against the grid.

Ten years after the establishment of the grid, the time seemed ripe for an official review of the distributing side of the service. The weakness of this side was such that after

* *Ibid.*, s. 55.

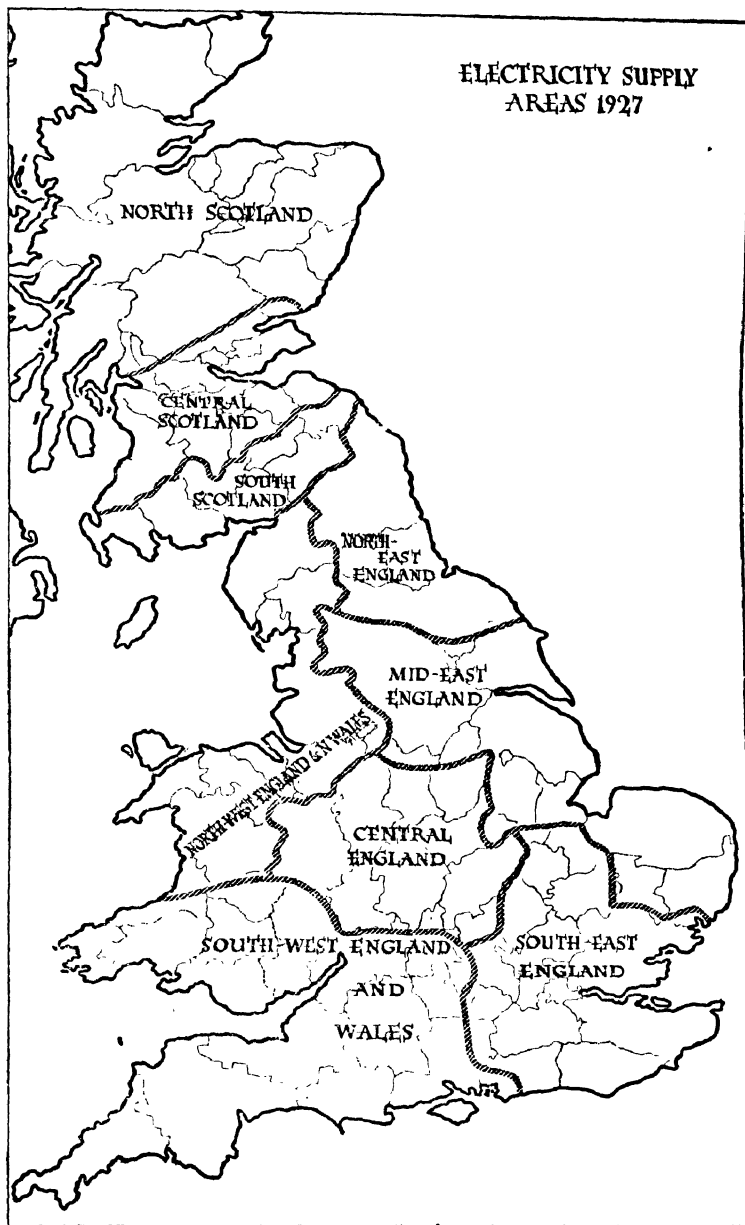
half a century of development a quarter of the people of the United Kingdom were not within reach of a supply of electric current. And those who did find themselves within reach of a supply were charged on different bases and at different prices, with different provisions for free wiring and for the hire-purchase of apparatus. Here was injustice. And here were obstacles to the further expansion of demand.

The McGowan electricity distribution committee therefore reported to the minister of transport in 1936 that the electricity commissioners should now be asked to map out the country into distributing areas, and work out schemes along which further development should take place in each area, so as to encourage the grouping of undertakings rather than their multiplication. Municipal right of purchase might also be everywhere postponed for fifty years, so that existing companies might expand without fear of having their urban clientele nibbled away from them. And if voluntary amalgamation should not occur along the lines of the commissioners' schemes, some possibility of compulsory amalgamation might be opened up, subject to approval of the commissioners' scheme by the ministry and by parliament. The McGowan committee even went so far as to suggest that all distributors with less than a certain sale should be exterminated as inefficient without the possibility of a parliamentary reprieve. A specially good case for amalgamation might be made out where a number of small distributors were supplied from the station of the same power company. And if such amalgamation were to be brought about, it would be almost inevitable that more generous terms would be given to shareholders that were compulsorily bought out than to municipalities. This is what happened when London passenger transport was unified: the difference is that with transport it was an autonomous board that acquired company and municipal undertakings alike, whereas in electricity distribution it would

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often be a company that would acquire a municipal undertaking; and with the solitary exception of the imperial cables merger, this would be the first service to be transferred from public to profit-making hands. Severe limitations would therefore have to be placed upon the profits of such companies.

ELECTRICITY SUPPLY
AREAS 1927



CHAPTER VIII

SOME ANCILLARY SERVICES

I. OVERSEAS TRADE FACILITIES

DURING the five hundred years of mercantilism, from the fourteenth to the early nineteenth century, the English crown and parliament encouraged exportation by the chartering of monopolistic companies, to which they granted the right of doing justice, maintaining an armed force, and negotiating trade agreements with foreign princes. In 'regulated' companies, the merchant adventurers traded on their own account in home waters and in the Mediterranean sea. And in the joint-stock companies the company traded as a unit to the East Indies and the South Seas, and endeavoured to eliminate the individual trader as an interloper. But regulated and joint-stock companies alike lost their charters of privilege in the nineteenth century. It was against them that the doctrine of *laissez-faire* had been principally directed in the eighteenth century. Economic and political functions were now separated. The merchant was left to trade as an individual, or to take shares in a joint-stock enterprise, or to join or not to join a club or trade association as he pleased. And the government on its side assumed full responsibility for diplomacy, for justice and for defence. When for instance the abrogation of the East India Company's privileges left the opium merchant free to deal in China as he liked, Palmerston went to his defence, compelled China to open her doors to him, and provided him with a refuge at Hong Kong ; but actual trade was his own affair.

There have always been certain services that are needed in common by many who are engaged in overseas trade, services on which any exporter who felt the need might draw. Of

these needs one of the most important was information. And this it gradually became the duty of a consul to provide. Now the consul, who could represent the home government among its nationals overseas, was originally the product of the mercantile community itself. The consuls of Italian communes had hardly revived the tradition of republican Rome by assuming the magistrature of their cities, when the merchants from those same cities chose consuls to do justice among them and represent them officially in the Levantine cities opened up to them by the crusading barons. What the Italian city states had done, the English chartered companies also did. Their consuls were merchants living partly from the profits of trade, and partly from their notarial fees as consul. And so were the earliest consuls appointed by the crown in places where no chartered company held a monopoly in the seventeenth century. Not until liberal doctrines were adopted by a tory government did the 'career consul' come on the scene in 1825, drawing a salary from the exchequer, debarred from trading on his own account, and therefore better to be trusted by merchants to whom he was not personally known.

Under the control of the foreign office, the consular service found its chief function in routine work among British nationals overseas. But it also had within it the possibility of developing into a public intelligence service on behalf of exporters at home. For *laissez-faire* had meant the end of legal privilege, not the end of state interest in overseas trade. It meant specialization of function and a consequent increase of efficiency, so that public servants were of more and not less service to the public. The less the state relied on legislation and compulsion, the more importance it attached to suasion and information.

When those few short and golden generations of freedom drew to their close, and all-embracing nationalism began to lay hold of human life and trade towards the end of the nineteenth century, much government activity was now devoted

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once more to restricting and canalizing the exchange of goods, in the hope of making each nation or empire as self-contained a community as possible. In such a general atmosphere, more attention than ever had to be given to maintaining and encouraging the immense international trade that still remained. And nowhere was this deliberate organization and encouragement more needed than in an industrialized and densely peopled country such as Great Britain which bought its food and raw materials with what it earned abroad. It was seen that the public services needed by the merchant did not stop short at the provision of adequate ports and cables, or even means of communication generally. It was realized that there might be room for state-financed services in the export trade itself, as well as for self-paying ones in the movement of goods in general.

This meant a possible increase in the usefulness of the consulate as an intelligence service both on special problems and on general conditions. While other governments merged theirs in their diplomatic service from 1880 onwards, the British government did exactly the reverse. At the end of the war it put it under a new department of overseas trade, which belonged as much to the board of trade as to the foreign office.

It also meant that new financial facilities in the form of export credit guarantees might prove useful in encouraging exporters to look for business, undeterred by the political and economic instability of the post-war world.

II. FINANCIAL FACILITIES

Capital, credit, insurance, currency and exchange are facilities needed by so many countless thousands and millions of persons, that their supply might be thought to constitute a public service of well-recognized importance. Yet this is not uniformly true.

Capital for most business concerns has usually been provided privately. The family business that counted for so much in the textile, pottery and hardware revolution of the late eighteenth and early nineteenth century was usually financed out of the savings of the family, the family's friends and even the family's servants. Similarly with the private company of to-day, which is often only an old family business behind a new shop front: its capital is usually raised privately and locally. The limited liability company in general, like most businesses in most ages, when once established, has tended to finance future expansion out of past profits. It is as a rule only the big and well-established firm that has found it necessary or profitable to jostle with public utilities and public authorities both home and overseas for the favour of the stock exchange. It would be interesting to know to what extent the increase in the number of such firms has kept pace with the multiplication of trusts for directing the savings of the very small investor towards the stock exchange. A public investment board for home industry would be a revolution with but little prelude.

Credit similarly began as an affair of private accommodation; for that was the essence of the relationship, not only between buyer and seller, but also between the manufacturer or merchant and the broker or banker who discounted his bills for him from the middle ages to the nineteenth century. With the spread, however, of joint-stock banking in the nineteenth century, thousands of firms became dependent for credit on a limited number of institutions. The financial stability of these institutions was believed to grow with the increase in their size. The banker's overdraft became the most common kind of credit. And by the time it became possible to count the number of big banks on the fingers of one hand an advisory committee was set up to keep a deterrently close watch on further bank amalgamations, so as to lessen the chance of the

whole banking world being dictatorially unanimous in granting or refusing credit for this purpose or that. And while the direction in which credit flows has thus come to be determined largely by a limited number of banks, the quantity of credit at their disposal has come to be regulated more and more by the Bank of England, not so much because it has become the bankers' bank as because it has learnt the influence of the bank rate and open-market transactions. In one direction the Bank of England has even guided the flow of credit: it has helped raise loans for the reorganisation of industries caught in the trade-contraction of the 1930's. And parliament has similarly supplemented the commercial banks in seeing that credit is made available to new firms in derelict areas. Credit has thus gone further than capital towards obtaining recognition as a public service rather than an affair of private accommodation. And it is no less a public service for being as much under private ownership as the railways, and less subject to public regulation.

Insurance has long occupied a most peculiar position. The spreading of risk has long necessitated its collective organization. The underwriters engaged in marine insurance long found an informal club sufficient, such as the one that met at Lloyd's coffee house at the time of the South Sea Bubble, and then secured its common possessions under a trust deed, to become finally incorporated as a regulated company out of season in 1871. When fire insurance developed after the fire of 1666, and life insurance when longevity increased in the eighteenth century, a joint-stock company was usually found the most convenient way of spreading the risk; and so necessary was this that insurance companies were among the few kinds of joint-stock company to be widely tolerated when joint-stock companies in general went out of fashion between 1720 and 1825. Not that they were without criticism from utilitarians who disliked the interposition of vested interests between the individual and

the state. Edwin Chadwick, whose career began with the study of the form of gambling known as life insurance, even believed that to leave insurance in commercial hands was an encouragement to arson, manslaughter and shipwreck. As, however, the insurance firms had no need to go to parliament to ask for statutory rights of compulsory purchase of land, parliament did not feel called upon to exact a *quid pro quo* in the shape of public regulation. So far from bringing insurance companies under public control, the British parliament has helped them in two ways since then. They as well as the public have gained from the certification of the seaworthiness of passenger ships by the board of trade, the roadworthiness of public service vehicles by the ministry of transport, and the airworthiness of passenger planes by the air ministry. And legislation has put business in their way, with insistence on workmen's compensation, third-party insurance and national health insurance ; for although some employers have gone to a mutual protection association, and some wage-earners to a friendly society or industrial collecting society or even a trade union, the majority have found the insurance company's agent the first on their doorstep ; and even where the company has been debarred from making profit, it has received useful help towards its overhead expenses. The compulsory insurance of pigs with the national farmers' union's mutual insurance society is almost the only instance of British legislation preferring mutual insurance to insurance by a commercial company ; yet it must be evident that a mutual insurance society run by a well organized industry would be more likely, for instance, than an insurance company, to seek a remedy for a disabled man's disability. It would be hard to find another European country in which insurance companies have become so powerful as investors of capital or granters of credit, or in which they have received such tacit favours from parliament. Apart from the unemployment insurance fund, which from 1920 to 1935 was a system of doles and not of insurance,

there are in fact only two kinds of insurance that have been experimented in by the state itself in Great Britain. The one is a system of free insurance policies for farmers who produce certain commodities, so as to put a bottom in their prices ; and this might equally well be called a subsidy. The other is export credit insurance ; this began with actual cash advances in 1919 when many friendly powers were so disorganised that they held out no hope of being able to pay within a short term ; when trade was becoming less abnormal in 1921 these gave place to the guaranteeing by endorsement of bills drawn on overseas buyers ; and only since 1926 have export credit guarantees tended to become a true credit insurance, with rates of premium fixed by a committee of business men, and no detailed scrutiny of each separate transaction. It is in overseas trade alone that the British state has stumbled upon an insurable risk ignored by the commercial insurance undertakings ; yet at no time has this experiment touched more than a shilling in every pound of Britain's export trade.

The currency has interested the English crown from at least Carolingian times. It was to pay danegeld that medieval England was covered with mints. It was in the royal interest that silver and gold were devalued time and again between the fourteenth and the sixteenth centuries. But with the growth of trade, other interests besides the royal began to call for consideration. Arbitrary inflation practically ceased with the limitation of royal power. Meanwhile a new issuing agency was suffered to grow up alongside the crown. The printing press began to rival the mint. Every English bank from the seventeenth to the nineteenth century was a bank of issue. The credit that it gave was drawn on in the form of bank notes. It made its living by the issue of a paper currency on which its whole neighbourhood came to depend. Its solvency became a matter of public concern. In 1824 these private banks were therefore permitted to share the Bank of England's privilege of incorporation as joint-stock companies, in the hope

that bigger capital might give them a broader base. But these new joint-stock banks were not allowed to keep their right of issue if they came within a certain radius of London. The Bank of England's previous monopoly of joint-stock banking was thus transformed into a practical monopoly of note-issue in England. In keeping with the true spirit of *laissez faire*, the arbitrary issue of notes at the discretion of the governors was then guarded against by the introduction of a self-acting check when Peel's bank act of 1844 limited the bank's note-issue by correlating it automatically with the value of its gold reserve. Thus for seventy years arbitrary juggling with the currency was ruled out, and gold specie and paper notes were interchangeable, until the treasury itself took statutory authority for printing notes and paying them into an account at the bank in 1914, thus precipitating the greatest English inflation since the time of Henry VIII. What was hardly foreseen in 1844 was the extent to which bank cheques might take the place of bank notes as common currency, and, as cheques are often drawn against overdrafts, the extent to which credit control might take the place occupied in earlier ages by the control of currency.

The stability of foreign exchanges became important with the growth of foreign trade. Exchange equalization was the only good excuse for medieval inflation: what one prince did, other princes must do. And in that age of arbitrary princely revaluation, exchange control was a matter of necessity both to royal creditors and to their merchant subjects. When, however, in more modern times such arbitrary interference became less common, when currency was tied to the precious metals, and the exportation of specie was freed from legal penalties, all problems of foreign exchange solved themselves automatically. After the chaotic interlude of war-time and post-war inflation, it was realized that the value of gold as an automatic equalizer of exchanges lay not in making pound notes interchangeable with gold specie within a country, but

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in allowing the free movement of bullion between countries. It was with an eye on foreign exchange therefore that a gold bullion standard was erected on the ruins of the gold specie standard during those few hopeful years from 1925 to 1931 when the nations showed some few signs of harking back to pre-war normalcy. When this automatic adjustment broke down again in the general economic collapse of 1931, the same end had to be sought by other means. Oversea trade had to be made roughly sure of the exchange value of sterling. And for this purpose an exchange equalization account was set up by statute, with power to borrow gigantic sums, by discounting treasury bills to the tune originally of £150,000,000 in 1932, £350,000,000 in 1933, and £550,000,000 in 1937, with which to buy foreign currencies or gold in an attempt to even out those fluctuations in exchange rates that present so great an obstacle to steady trade.

In an age of money economy, no movement of goods or services would be feasible without the provision of financial facilities at every point in the economic system where they are needed. In an age of world trade they are needed on a world-wide scale. As public services then they may contribute to the circulation of wealth either within a country or between countries. This international public service has long been privately performed by marine insurance and bill-discounting houses such as those of the city of London, and is now beginning to be officially supplemented on a tiny scale by the bank of international settlements at Basle and on a larger scale by interlocking and co-operation between the older national banks of issue and between the newer exchange equalization funds.

III. FOOD SUPPLY

One of the most primitive of public services is the bringing together of the producer and the consumer of food. The

organization of a market at a definite time and place was a boon to both producer and consumer, in the days when most people produced most of the food they needed and therefore relied on the market for only a comparatively small part of their living. Such markets arose in England only under grant from the crown. A town that paid for such a grant would pay for a monopoly of market rights within its district, so as to prevent the victualling of competitors. And gradually, in the course of the middle ages, the whole country was studded with small market towns, some of them corporate boroughs or cities, but most of them mere manors or parishes.

As large towns arose, midd'emen gradually took up a recognised place between producer and consumer. Victualling crafts such as fishmongers and grocers and vintners arose at London. More generally, the wholesale dealer arose on the one side, and on the other a retail tradesman, whether stall-keeper or shopkeeper. Producer and consumer would now no longer meet face to face at market in the larger towns. And for the middlemen the market itself might now have a metaphorical rather than a real existence. By Elizabethan times, the London corn dealer was allowed to buy corn before it came to market: the trade was so great and the competition so keen that there was now little reason for fearing that this 'forestalling' would result in an unjust price.

As London grew larger, some food markets now expanded, while others shrank into metaphor. For perishable foodstuffs, it might be useful to have regular wholesale markets with their fixed hours and their facilities for the rapid handling of large quantities of foodstuffs. In the seventeenth century, the city of London therefore developed a live cattle market at Smithfield and a fish-market at Billingsgate, while an Earl of Bedford was granted a charter for a fruit, flower and vegetable market at Covent Garden. But for foodstuffs that could be safely stored or sold by sample, such as corn, a mere unofficial

exchange' was enough; this came into existence spontaneously, without any granting of royal rights or levying of toll, and without any expensive organization or extensive site; and this method of marketing tended to encroach on the other, as well-graded mass-importation and cold-storage of meat were developed.

The wholesale food market thus retained its usefulness, although it no longer covered the whole field of food supply. And in providing suitable marketing facilities, a great city had several points of policy to bear in mind. It had to secure adequate accommodation and communications, which the city of London failed to do at Billingsgate, where congestion and delay and cost of portorage grew progressively worse as more and more fish came by rail and less was landed direct from the river. It had to consider the effect of marketing arrangements on public decency and order, which led the city of London to bow in 1851 to a great agitation for moving the live cattle market from the crowded streets of Smithfield to the ample spaces of Islington, establishing a dead meat market in its place. Similar considerations of health and morals led many authorities to regulate slaughter-houses by by-laws, licensing, registration and inspection, along the lines of the towns improvement clauses act of 1847, although they were slow indeed in following Swiss, German and Danish humanitarianism in prescribing the stunning of animals in order to render them senseless before they were bled. The same feeling also led many towns to establish municipal slaughter-houses, although only a handful found it worth their while to expropriate the owners and occupiers of all private slaughter-houses, whether well or ill-equipped, and completely and compulsorily supersede private by public abattoirs.

Marketing in the more general sense seemed to call for some greater measure of publicity in order to reassure the public against excessive profits of middlemen. Thus the Auckland Geddes food prices commission of 1925 reported in favour of

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a 'food council,' as a permanent organ of state, though not a department of state, autonomous in relation to the board of trade, though reporting the results of its inquiries to the president of the board of trade, and so constituted that it should gain 'the confidence of the public and the respect of the business world.' 'This autonomy,' said the Geddes report, 'we consider to be important, as the part which we wish the food council to play is not that of a government department administering acts and regulations, and therefore bound at all times by precedent and the letter of the law. It will act rather as a mediator between the producer, trader and consumer, in reconciling, for a common end interests which we do not regard as necessarily conflicting.'*

British markets for storable and cold-storable foodstuffs, however, came gradually to draw their supplies from the whole world. For many foods the British market became a world market. And when an appreciable disparity arose between British and world prices, considerations of food supply came inevitably into collision with emergency measures devised to rig the market in favour of the home producer. The agricultural marketing act of 1930 remained practically a dead letter until in 1933 the quantitative regulation of production and importation was held out as a sop, though not as a pledge, to any section of the industry that adopted a marketing-board. Thus the British potato-marketing board used its regulatory powers to prohibit the sale of potatoes under a certain size for human consumption. And the English milk-marketing board used its price-fixing powers to keep up the price of liquid milk, in spite of over-production, by making this sheltered half of the dairying industry subsidize a new milk-manufacturing industry in competition with imported dairy products, while sample bottles of milk were sold cheap to the rising generation by way of long-view advertisement, and cheap or free milk had to be provided for mothers. Such

* Food prices royal commission 1925, XIII. [2390]. p. 136.

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an organization was obviously designed to help one section of the public against the rest. It was a crisis measure, rather than a public service. While registered producers polled in favour of a scheme and elected most of the members of its administrative board, the consumers' committee nominated under each scheme could do nothing but investigate and publicly protest. 'Why was liquid milk higher here than anywhere in Europe?' the chairman of the food council was reported to have asked. 'Why was it higher in comparison with pre-war than any food except fish? Why did the government have to subsidize its supply to certain sections of the community? Was that not in itself an admission that food prices were too high?'

* The frank and open subsidizing of home-killed beef is comparatively straightforward; it provides an incentive to grading such as has been organized by monopolistic wholesalers in the great beef exporting countries overseas; and for this purpose it involves a lessening of the number of cattle markets, thus making a breach in a thousand years of local tradition in order that the original purpose of such a market may be better served. The immediate future would seem to lie here with impartial marketing commissions, empowered either to replace or to regulate the producers' boards.

IV. CONDITIONING SERVICES

Most public services facilitate the movement of things that are wanted; but there are just a few that promote economic activity by the more negative method of removing things that are not wanted, such as the dangers that come from flood, pollution, refuse and fire.

Those who run the risk of having their land flooded have always been to the forefront in the fight against floods. To define and enforce their customary obligations with the help

* Mr Geoffrey Peto at the grocers' exhibition, 20 September 1937.

of juries, local commissioners of sewers were appointed by the crown from at least the reign of Henry III onwards. By the time of Henry VIII's 'reformation parliament,' the duty of the frontagers and others was often commuted into rates, which fell, like the customary labour, on him 'who hath or may have any hurt, loss or disadvantage . . . in the same places as well as near to the said dangers, lets and impediments . . .,' as the bill of sewers of 1531 somewhat vaguely phrased it. Liability to flood meant liability to rates. 'No benefit, no rate,' became a well-established principle, in England as in Holland. And drainage districts were defined both by nature and by this common-law principle.

Within these well-defined drainage districts, commissioners of sewers were often appointed, at the request of local sufferers, under prerogative powers confirmed by parliamentary enactment in 1531. The composition of these commissions changed somewhat in the course of time. A whig majority in 1833, for instance, limited their membership to big landowners and their heirs and agents. And they were commissioned for life under the drainage act of 1861, which recognized that their magisterial functions had gradually become less judicial and more administrative. As a small concession to democratic tendencies, the act of 1861 also provided for drainage boards elected by all the payers of drainage rates to be set up by provisional order, on the initiative of local proprietors, if the change was approved by two-thirds of the acres liable to damage. And in a not altogether successful attempt to speed up this transformation, the initiative was extended from local landowners to the ministry of agriculture, which had since been created, in 1918, and was transferred to the county councils, which were also of more recent origin, in 1926.

Meanwhile it had become obvious that drainage districts were no longer large enough to form satisfactory units. During the golden age of wheat-farming, landowners had

developed subsoil drainage ; at the same time, new urban sanitary authorities laid down sewage systems ; and the more rapid discharging of water into rivers tended to increase the danger of flood, and extend it to higher levels than before. The lower levels would now have to raise their rates, on account of the floods let down upon them from the higher levels ; the upland areas themselves stood to gain or lose from the way in which the lower drainage authorities did their duty ; and it thus became obvious that profitable action was impossible without co-operation between all the old drainage districts within the whole catchment basin that lay between the watersheds drained by each of the major river systems. The Thames navigation-conservancy board was empowered to deal with drainage ; but it had no power to levy rates ; and out of its navigation dues it could not appropriately do more than mend the towing path. Rather than expand such a board into a general river authority, a few experiments were made in setting up a few new parallel *ad hoc* authorities. In 1871, for instance, a Thames valley drainage commission with power to levy rates was established, and in 1877 a Somerset drainage commission. A select committee of the House of Lords on conservancy and drainage reported unanimously in favour of such larger authorities in 1877.

It was taken as axiomatic that the initiative in setting up some such new organ should be left to the local landowners. Sir John Hawkshaw, when giving evidence before the Lords' committee, pointed out that in Holland it was a government department that called him into consultation, whereas in England it was a self-constituted committee of noblemen and gentlemen, all big landowners, who wanted some estimate of costs before approaching parliament with a well-prepared scheme. 'No body sitting in London,' he said, 'could very well say with regard to the rivers of this country and Scotland, to gentlemen who have lands in those valleys, that they were neglecting their duties, and should set about preventing floods.'

If the gentlemen whose lands are suffering do not feel the necessity for it, I should leave then until they feel a necessity for it. I do not see any other method of dealing with it. Adopting any other course would be taking the thing out of the hands of those interested, and placing it in the hands of those not interested, and who might know nothing about it beyond what they knew from hearsay.* The Lords' committee unanimously agreed. 'Although,' they reported, 'the committee are of opinion that means should be taken to ensure the appointment of a conservancy board for each watershed area, they consider that it should, in the first instance, result if possible from the application of persons having an interest in the district.'

During the next fifty years, however, the persons interested did not feel that they could afford expensive works or expensive acts of parliament. Agricultural rents were falling.

Meanwhile the county councils arose, some of which got local acts empowering them to step into the breach left by the landowners and act over a wider area than the local drainage commissions and boards. In 1927 a land drainage commission reported in favour of grouping the counties within each catchment basin, so as to set up a new indirectly elected authority. Catchment boards thus came to be set up under the land drainage act of 1930. They were to derive their funds partly from county rates and partly from drainage-rates. At least two-thirds of their members were therefore to be representatives of county and county borough councils within the catchment basin, while the remainder were to be appointed by the minister of agriculture, mainly from among nominees of the internal drainage boards. For these older authorities survived in a new dress, though now for the first time in a subordinate position; and with them survived the liability to drainage rates in levels naturally liable to flooding.

Floods were not the only menace that came from rivers.

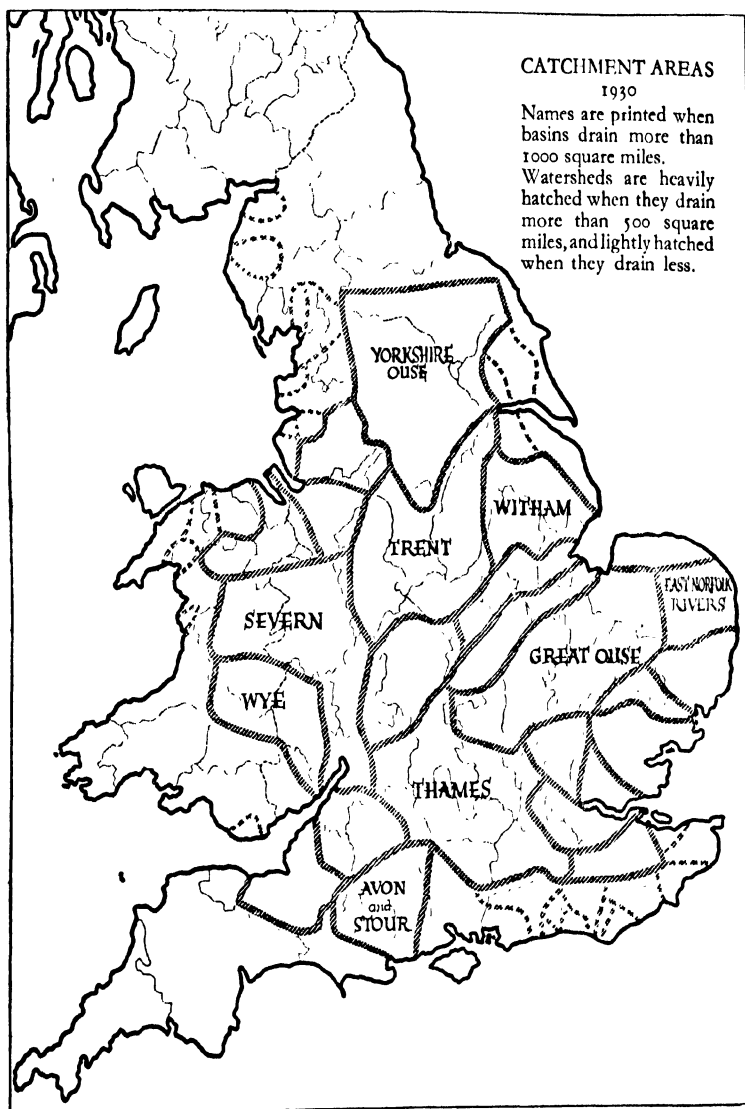
* *Loc. cit.*, Q. 2798.

Their waters might be dangerous in quality as well as in quantity. For they might become polluted.

Here too was a danger to which public opinion awoke only when it became normal for waterworks to extract drinking-water from the same rivers into which urban sanitary authorities discharged their sewage and factories their chemicals. The report of a Thames pollution commission in 1866 led to the new Thames conservancy board, whose power was extended to the whole length of the river in that very year, being empowered to prevent pollution as well as to conserve navigation. It was to scavenge the surface of the Thames, and prevent local authorities and others from discharging matter liable to putrefaction. In 1894 it was even allowed to make this work more effective by inspecting also the tributaries. For these services, and not for the water they extracted, the metropolitan water companies agreed each to pay £1,000 annually. And what was begun on the Thames was soon imitated on the Lee.

A distinct *ad hoc* authority, with its own governing body, its own staff, and its own budget, for each aspect of river conditioning, was hardly to be expected. In the basins of the Thames and the Lee, the functions of the historic navigation conservancy boards were therefore extended, first to include the prevention of pollution, and latterly to act as catchment boards for drainage purposes. The question therefore naturally arises whether every catchment board should not become a general river authority, responsible for preventing floods and pollution, conserving navigation, and regulating water-abstraction and fisheries throughout the whole of its basin. This proposal was put forward by an inter-departmental advisory committee on river pollution in 1937. And it coincided with the views of engineers who thought that it might make possible big dams and reservoirs, which in this country would have no economic justification if they served one purpose alone, but might perhaps prove justifiable here

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and there if they proved equally useful for preventing flooding, supplying water for extraction, and conserving water for navigation.

Of urban conditioning services, the most important and the most expensive has long been the removal of refuse.

A beginning was made by the street improvement commissioners that arose in many towns between the mid-eighteenth and the mid-nineteenth century. The work was then taken up by sanitary authorities. And to-day the local authorities of England and Wales alone spend £11,000,000 a year to move 11,000,000 tons of house refuse, 3,000,000 tons of road sweepings, and 1,000,000 tons of trade refuse. The metropolitan boroughs alone spend £2,000,000 a year to move 2,000,000 tons of refuse, half domestic and half from the streets, at £1 a ton; and most of them had long tipped this refuse into barges which dumped it smouldering on the coast of Essex, when the danger of its smoke to Thames navigation, the nuisance of its smell to the local population, and a critical report from an inspector to the ministry of health, led a departmental committee on London cleansing in 1930 to suggest the usual modern panacea, a larger authority, as the only way to find a rational method of disposing of a retail nuisance without creating a wholesale one. And rubbish is becoming more bulky and more valuable with the increasing use of tins and cartons. The possibility of waste-recovery must obviously depend either on better sorting before delivery or better technical equipment at destructors; and some small use has been made of burning rubbish for the generation of electricity and steam. Refuse-disposal, unlike water-supply, has been paid for out of rates levied both on those who utilize the service and those who do not; for, like sewage disposal, and to a greater extent than cemeteries, it arose as a form of sanitary police, and not as a commercial proposition for any one except the rag-and-bone merchant and the salvation army.

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Fire-extinction is the last of the conditioning services that will be considered in this place. The loss caused by fires was said by a royal commission in 1923 to be eight or ten times as great as the cost of fire brigades. Had the brigades not existed, the loss would have been yet greater. Fear of this loss led to voluntary fire-fighting long before any attempt was made at systematic public organization. And the removal of this danger offers an interesting example of the substitution of municipal for voluntary effort.

In the days of voluntary local effort, fire-insurance companies frequently took the lead; at London, where they were best developed, they joined forces in a combined London fire brigade in 1832. Elsewhere works and collieries similarly developed their own brigades, especially in outlying places, and, whether willingly or not, these were often put at the service of outsiders. And volunteer brigades, that elected their own officers and collected their own funds, abounded and still abound.

Little by little, however, this voluntary local effort passed under municipal control. Volunteer brigades got their engines and apparatus, fire alarms and fire hydrants, paid for by the local authority. Or the volunteer passed into a part-time retained man, in hundreds of boroughs and urban districts. And in the great centres of population, as a full-time brigade paid out of the rates became necessary, two alternatives were opened up. The local police might act as local firemen, along the lines of the town police clauses act of 1847, a method adopted by many provincial cities. Or a professional brigade might be evolved, such as the London fire brigade which the metropolitan board of works took over and expanded in 1865, an example copied especially by London's nearer neighbours; and although such a brigade has usually been paid for out of the rates, the London prototype has always received a small statutory contribution from the

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insurance companies equivalent to £35 per million of property insured.

From the great centres of population, this tendency towards a full-time police or professional brigade stood little chance of spreading to the countryside. It was not only that county authorities had no general fire-fighting powers in England as they had in Scotland. It was much more that the service of a wider area has been made possible only by the development of motor apparatus, which has opened the way to the co-operation of district councils in a scheme got out under the aegis of the county council. But besides widening the range of usefulness of this service, the motor has sent up its cost, so that we shall soon be spending as much on fire-fighting as we lose by fires.

V. CONSERVATION OF NATURAL RESOURCES

Man was dependent on nature before ever he became dependent on any public service. The scarcer the gifts of nature, the more easily might they be monopolized. The more difficult the access to them, the harder it would be to put into circulation many of the material advantages that man desires. The conservation, reclamation and improvement of these resources have therefore been envisaged as a public service.

In this rising consciousness of their public importance there have been two principal phases.

The exhaustion of the American prairies and the erosion of the African plateau brought home to modern man the possibility that by his 'wheat-mining' and his cattle-grazing he might be making a desert; when the individual had extracted all he could get, the community would have to step in, if it could afford to, in order to restore the value of this wasting asset. It would have to bring scientific knowledge, engineering skill, and organizing ability to the task, just as

six thousand years ago the dwellers on the Nile had founded civilization by their fight against the desert.

Now the United Kingdom was not exposed to tropical sun or tropical rains ; nor did it practise single-crop agriculture ; nor was its climate or its water-supply being substantially altered by deforestation. It was not therefore to the front in the fight for preserving humanity's natural resources. It had none the less some forebodings of evil. It foresaw the possibility of a shortage of coal, of fish and of land.

British coal might some day be exhausted. But the economic effects of its diminishing abundance would make themselves felt long before it approached exhaustion point. Before the war, coal was already becoming dearer. The result was a spontaneous economy in its use : each ton was made to produce twice as many horse power per hour. It was to encourage this tendency that the ministry of reconstruction's committee on coal conservation produced reports on electricity supply. And the electrical trades found a patriotic advertisement in a departmental committee's dogmatic guesswork and economic credulity. 'The scientific re-planning of our distribution of energy,' it was said towards the end of the war, 'would effect a saving of nearly 50,000,000 tons per annum [equivalent to one quarter of the home consumption] . . . Witnesses of high authority estimate the loss incurred by the nation through failure to take advantage of electrical progress at not less than £100,000,000 a year, a loss preventible by concentrating generation under improved administration.'*

The possible exhaustion of fish supplies, led to local regulation by sea fishery committees from 1888 and salmon fishing boards from 1923.

And the possible exhaustion of virgin soil in other continents, in the days when population was still growing, emigration was still immense, and land-hunger was prevalent enough

* Electrical trades committee, 1918. *XIII*, [9072]. ss. 7, 8.

to give the liberals a party cry, produced a British backwash in the odd shape of a royal commission on coast erosion and the reclamation of tidal lands. The loss of land at some parts of the coast was found to be counterbalanced by a gain elsewhere. The Wash was found to be too sandy to be worth reclaiming, unlike the clay-bottomed Zuyder Zee. And in any case all foreshore, between high and low water, belonged to the crown and was administered by the board of trade as the authority responsible for navigation. This Guest commission therefore turned in despair to afforestation, as the only distantly related subject about which anything could conceivably be done. For home supplies of timber were practically exhausted, and the world demand was so great that world prices were rising. The result was the setting up of a development commission, which, for the next ten years, 1909-19, encouraged the training of foresters and the planting of nurseries by means of small grants, and thus prepared the way for the later activities of the forestry commissioners with other ends in view.

The exhaustion of natural supplies through increasing demand was not however the only economic possibility. By the 1930's British opinion became aware that there was also such a thing as the contraction of an industry through diminishing demand. What had happened to British wheat-growing once before in the late nineteenth century, now happened again: arable fields sank back into permanent grass. The fishing trade also fell off; both the exportation and the home consumption of herring, for instance, were halved. And coal production sank back from its war-time peak to the lower level of the beginning of the century.

At the same time, it is true, the country's most important manufacturing industries were also contracting. But agriculture, fishing and coal-mining were in a different and peculiar morass in that they took their product straight from nature. When therefore their earnings were beaten down by economic

stress, it was at nature's expense that they tried to hold body and soul together and keep their firms afloat. The farmer would take more from the soil in nutriment than he put back in manures, and now that the decline of corn-growing removed one of the chief inducements to careful cultivation he often let the soil be further robbed by weeds. The herring drifter took to fishing all the year round and sending all grades of fish together to market, with the result that the public's taste for herring fell away still further, while the sea fisher filled his holds full with whitefish of which large quantities became fit only for sale as manure. And ill-placed collieries, struggling to survive, helped to bring prices uneconomically low and frighten away both capital and labour from an indispensable basic industry.

In spite of the near approach of a decline in population, we still act on the traditional view that the life of humanity is long though the life of man be short. It has therefore seemed worth while to take the long view, and regard it as a public service to deal thriftily with nature's bounty. To conserve the fertility of the soil, the British treasury agreed in 1937 to pay half the cost of liming and a quarter of the bill for slag. To prevent the depopulation and steady extermination of fish, international conventions and national regulatory marketing boards strove to restrict fishing and restore close seasons for breeding. The unification of coal mines royalties has found justification, not only in an assurance that they will be limited in amount and time, but also in the hope that the statutory coal commission in whom they will be vested may extend the practice of the more far-sighted of mineral agents in making the renewal of leases depend on economical and efficient working, viewed from the point of view of natural resources rather than of the price of raw coal fuel to the consumer. And it is a characteristic feature of this particular public service—and a sign of what may happen to others in the future—that its purchase has occurred in a falling market, at the surprisingly

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low total, awarded by a tribunal presided over by the master of the rolls, of fifteen years' purchase, whereas nearly all previous purchases that have been made along the lines of the lands clauses act, as for instance the municipalization of waterworks, have been made in rising markets, and have been correspondingly staggering in amount.

VI. SCIENTIFIC INVESTIGATION

Until the present century, the world of scientific investigation, research and invention, was divided into two distinct hemispheres. Private business on the one hand depended almost entirely on private scientific enterprise. And the business of the crown was furthered by public scientific institutions. Between the two the only important link lay in the availability of private discoveries for the use of the state, and the equal availability of governmental publications to private enterprise.

The interest of the British government, as of all other governments, in science as an aid to eighteenth-century mercantilism was not small. Just as most rulers in Northern Europe tried to strengthen their states by encouraging metallurgical and mineralogical science, so the British board of longitude produced a nautical almanac of use both to the admiralty and to private shipping. The ordnance survey, too, provided a unique series of maps, more useful to agriculture and transport in an age of enclosure acts and railway acts than to the military defence of this island. In more recent generations, the government chemist with his government laboratory has proved helpful to the post office, as to many other government departments, in passing contracts, especially since the nationalization of the telegraphs. In the most recent years, the post office engineers have achieved eminence as research workers, especially since the nationalization of the telephones; and their work has contributed to private

industry as well as the public service, in that it has made especially for the improvement of apparatus supplied by contractors.

Before the twentieth century, the only instance of the British state deliberately organizing research for a truly public as distinct from a specifically or primarily governmental purpose would seem to have been the geological survey, started when Brougham was lord chancellor, and attached for half a century to the science and art department that was responsible for encouraging technical instruction. In 1901 it was joined by the National Physical Laboratory. And from 1909 the development commissioners, with £500,000 a year to disburse, preferred to spend it on agricultural, piscicultural and arboricultural research rather than on subsidies.

It was, however, with the war that the systematic organization of scientific research was embarked upon by the British government, in imitation of the German enemy, whose large-scale industry had developed so late that it owed more to scientific research than to the craftsman's inventive skill, and much to Harnack's Kaiser-Wilhelm-Gesellschaft.

Of this new spirit the most important example was the committee of the privy council for scientific and industrial research, a new department, with some £500,000 a year at its disposal, set up by order in council in 1915. So that it might receive legacies and hold property, it was incorporated by royal charter. It brought to its help an advisory council of scientists. Knowing that business firms were more interested in the paying tactics of the moment, it aimed at concentrating on the less paying strategy of the future. So far from relieving firms and industries of their responsibility, it encouraged the formation of research associations by industries, and did much of its work in collaboration with them. But besides taking over responsibility for the geological survey and the National Physical Laboratory, it studded England with a host of research stations and laboratories of its own, for building and

fuel, forest products and food storage, radio and chemical research.

This was copied in 1930, when a similar but poorer committee of the privy council—in fact a cabinet committee under the chairmanship of the lord president—was set up to advise on the financing of agricultural research by other public bodies, such as the development commission, so as to secure priority for laboratory work that is alive to the conversion of British agriculture from grain-growing to cattle-grazing, and also latterly so as to test this work in a field station of its own. A third committee of the privy council also existed, for medical research, to supervise the incorporated medical research council which had grown up under the health insurance act of 1911. When these three ministerial committees and their permanent scientific councils were considered, the lord president, who at long last had something to preside over, might fairly say: ‘The full triad of research organizations under your Majesty’s privy council is now completed.’*

As a matter of fact, it was not quite complete. For some years a committee of civil research had conducted inquiries into the economic aspects of such problems as the Channel tunnel. And now, in 1930, this was absorbed into the prime minister’s economic advisory council, which bore less resemblance to a corporate body or general staff than to a panel from which committees of consultants and investigators could be drawn at the prime minister’s desire, less desire having been felt for social than for scientific research.

* 1931-2. XII. [4008].

CHAPTER IX

THE PUBLIC SERVICES AND THE PUBLIC

I. CAPITAL

EVERY form of society that the western world has known has possessed an important class of persons endowed with means enough at their disposal to enable them to play a considerable part in moulding the evolution of science and art, fashion and society. In the middle ages, the standing of the feudal class and the clergy was based on their holding of land. From the fourteenth to the nineteenth century, the merchant class acquired a similar standing, based on the capital laid out in its family businesses. In the seventeenth century, a third phase of development set in ; after long being a novelty and an exception, it has now, in the twentieth century, become a dominant characteristic of our social system ; this is the emergence of considerable classes who owe their standing in large measure neither to land-holding nor to the ownership of trading capital, but to contractual claims on some kind of collectivity in the saleable shape of stocks and shares.

Many of these contractual claims are of course on the registered public companies that have begun to take much of the place once occupied in Great Britain by private family firms. Of approximately equal value to-day, and of prior historic importance, are three other classes of similar claim, arising from overseas investment, governmental and local borrowing, and the obligations of statutory public utility undertakings. These three have arisen together. In the eighteenth century the distinction between them was somewhat vague ; the East India Company, for instance, partook of all three characters. But by 1815 the distinction was fairly clear.

Pitt's war left the national debt many times bigger than all the shares and debentures of canal and water companies and the debts of turn-pike trusts. But it was a characteristic feature of the comparatively peaceful capitalist exploitation of the material resources of the world in the nineteenth century that between 1815 and 1914 the reproductive investments grew rapidly while the national debt shrank absolutely as well as relatively. During Gladstone's lifetime, investments in British railways alone rose to a higher figure than the whole of the national debt. Public utilities took the place of the state debt as the normal trustee security. Although they carried no state guarantee they had behind them the sanction of the state in the form of approval by parliament, or, later, the treasury or the board of trade. They seemed to combine all the safety offered by the state, with some of the speculative possibilities held out by overseas investment. By 1914 the outstanding capital liabilities of the public services were probably approaching £3,000,000,000, compared with overseas investments of some £4,000,000,000 and a national debt of not much over £600,000,000. Only since the war has the indebtedness of the state, with no more solid backing than the willingness of the government to levy taxes and of the people to pay them, usurped the place formerly occupied by such reproductive investments as the public services.

The lovers of abstract calculations may reckon out what would be the market value at any given time of all the existing holdings of public service stock, or of all plant and land held by public service undertakings. Such calculations are unreal, for they are based on the assumption that all such stock or plant is not thrown into the market at once. Their chief interest to the historical student lies in the evidence they bring of the proportion in which the national capital is distributed among various aspects of economic activity at different dates. In the hands of Sir Josiah Stamp, they show for instance that transport undertakings accounted for a third of the nation's

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capital at the close of the railway age, but for only one-sixth to-day.

The nominal value of all public utility stocks and shares at the present day is hardly less significant : for when allowance is made for the vast sums that have long ago been paid off, especially through the sinking funds of municipalities and state departments, this helps the observer to form some idea of the immense resources that have gone to the building up of these services. At the present time, railway stock amounts to well over £1,000,000,000 ; gas, water and electricity account for a second £1,000,000,000 ; and ports, canals, urban transport and the post office together account for the best part of a third £1,000,000,000 ; the whole having come to constitute a kind of secondary public debt, much of which dates from the great peace of the nineteenth century, and most of which pays only a small interest or dividend.

So far from capital being the master of the public services, it has become a many-headed sleeping partner incapable of concerted or directive action.

II. LABOUR

The public services have proved as attractive a market for labour as for capital. An increasing proportion of wage-earners have found employment not in productive work but in distribution ; and of these a very large part, especially of the men and boys, are to be found in the public services.

For this attractiveness, in spite of much night work, there have been many reasons. One of the first arose quite naturally from the clash of standards that was inevitable when a rural area was invaded first by the canal, then by the railway, leading to the docks, recently by buses and garages, and now by aerodromes. The agricultural labourer, who got a large part of his pay in kind in the shape of a tied cottage and cheap food and fuel for the taking, jumped at the opportunity of becoming

master of his own wage, free to pay the current market price for the house and food and fuel of his choice and his wife's. He could become master too of his own leisure, spending it as he liked after his fixed day's work was done. Instead of hesitating with one foot in the 'nature economy' of medieval self-sufficiency and the other in the 'money economy' of modern trade, he would cross the social Rubicon and become a modern man. In so doing, he would become in many ways a freer man; for when he left the inclosed villages of the Midlands and the South of England, it was the personal dependence and pauperism of the agricultural labourer that he was abandoning, not the yeoman pride of a freeholding peasantry. And he would stand more chance of becoming the breadwinner of his family, with a wife in the home and children at school, instead of merely contributing the largest handful of shillings to the pool of the family earnings.

Conditions of employment in the public services were not only totally different from those subsisting in agriculture. They also had certain advantages over those prevailing in the factory industries that were expanding at the same time. Employment, above all, was practically permanent on these undertakings that had to meet the same overheads and employ the same labour whether trade was good or bad; and this was eventually to bring widespread exemption from unemployment insurance. Sickness benefit was not left entirely to voluntary membership of friendly societies; it was provided on most railways by some special friendly society subsidized by the company; out of the permanent sick-pay which these paid to their aged and infirm contributors, an early system of old-age pensions developed from the 1880's; and this again has led to considerable exemption from national pensions insurance. Accidents were specially likely on the railway: it was therefore here that the principle was first worked out that gave the wage-earner a free accident insurance policy by making employers liable for compensation to those who were

in their employment. In such big services, opportunities for promotion, responsibility and gold braid abounded. Holidays with pay stretched down to the manual and manipulative grades earlier than in those trades where a holiday was more likely to happen spontaneously in the form of periodical slack trade. And only a little imagination was needed for avoiding blind alleys and encouraging continued education. In services so fortunately sheltered from the worst blasts of world-trade depression, such paternalism was both possible and profitable.

This has led easily to a common front of the service and the servant against the user ; for it is of the very nature of a quasi-monopoly that its users can avoid neither the one nor the other. The spirit of service easily takes on an arbitrary and officious mask, in the certainty of easy earnings. In gas undertakings, this has often taken the form of actual co-partnership, since Livesey saw that under the statutory sliding scale the co-operation of the gas-workers must be sought if shareholders were to win high dividends by keeping prices low, although the degree of co-partnership has varied from the provision of a playing field to a bonus on wages and a contribution to a provident fund. A similar community of interests was again strikingly displayed in 1924, when, as part of a strike settlement, Harry Gosling of the transport workers' union passed the London traffic act for putting an end to the unrestricted competition of the small owner with the General bus company.

Under such circumstances, it was not until comparatively late that trade unions began to flourish in the public services. These monster firms, with their impersonal hierarchy, came nearer to being the last than to being the first to find themselves confronted with unions bent on collective bargaining. Naturally so ; for, apart from locomotive men, these services employed no substantial body of well-paid and skilled craftsmen such as the printers and the engineers : and the provident funds that played so big a part in the mid-Victorian 'new

model' unions were less urgently necessary here where unemployment was less common and sickness often already provided against. When, however, a new 'industrial' unionism began to make its appeal to the less skilled and less well-paid from 1888 onwards, the gas workers and railway staffs, and the dockers who had few of their advantages unless they worked direct for a dock undertaking, became the typical representatives of organized labour. Such advantages as they had gained from being in sheltered work, had consisted mainly in better conditions of employment, rather than in better wages. They therefore had some ground for complaint, especially as conditions of employment began to be levelled up even in the industries exposed to world competition, and new national insurance facilities devised which were in some respects better than those that they themselves had long enjoyed. Despairing of collective bargaining with such powerful employers, these new unions tended to call in the state, not only to ameliorate their conditions of employment and to frame machinery for voicing their claims, but also in the hope of democratizing the ownership of their services. And the trend towards municipalization was greatly strengthened by the belief that a local authority would prove a model employer of direct labour, besides inserting fair-wage clauses in its agreements with contractors.

The nineteenth century abhorred all statutory regulation of adult men's conditions of labour. Hours might be regulated for women and children ; but men were left to negotiate their own ; and whenever their craft unions were well organized, the men gradually succeeded in getting shorter hours than those fixed by parliament for women and young persons. In certain public services, however, where industrial unions had no similar success, the statutory regulation even of men's hours seemed imperative for the public safety. From the 1880's, for instance, returns were regularly presented showing

the overtime worked on the railways ; in 1892 a select committee called attention to the danger latent in the overworking of railwaymen ; and legislation followed. The road transport act of 1930 similarly laid it down that drivers both of public-service and of goods vehicles must have not more than eleven hours continuous work and not less than ten hours' continuous rest in twenty-four, although the ill organization of road-transport workers has left little machinery for effectively enforcing this law, except the latent power of the traffic commissioner since 1933 to call for recent time-sheets when renewing a goods licence. More important have been the attempts of the government to divest itself of responsibility, and yet lessen the risk to the public of a stoppage, by organizing permanent conciliation machinery. In many industries where craft unions were strong, this had happened spontaneously in the nineteenth century ; but in the public services it needed considerable encouragement. In most of these services it has tended since the war to follow the standard type of joint industrial council advised by Whitley, with the further possibility of arbitration by the industrial court. On the railways, board of trade mediation prevented a general railway strike on behalf of an eight-hour day in 1907, by getting the companies to agree to conciliation machinery ; as the companies did not officially recognise the unions, the conciliation stage became a mere formality, and the onus of decision was thrown forward on to an official arbitrator by whom both sides were heard for the first time. Post-war railway staff legislation has therefore aimed at throwing back as much responsibility as possible on to the unions and the companies, and as little as possible on to the third party appointed by the government to represent the users. In this service the unions have thus acquired a quite unusual statutory standing. In the road traffic act of 1930, on the other hand, the most that seemed feasible was to say, ' the wages paid . . . and the conditions of their employment shall not be less favourable to

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them than the conditions which would have to be observed under a contract which complied with the requirement of any resolution of the House of Commons for the time being in force applicable to contracts with government departments.' The public services are thus unique in the extent to which their labour conditions have been affected by parliamentary intervention within the last fifty years. 'It is an accepted principle' said a departmental committee in 1911, 'that parliament acknowledges a special duty to regulate industries which are directly created by its own acts, and which as a consequence may be modified by subsequent acts. This principle parliament has never hesitated to apply in practice to railway servants as occasion has arisen.'*

III. THE CONSUMER

The public services and their users change together in both place and time.

The location of industry is well known to have undergone considerable change. In the mid-nineteenth century it was in proximity to the coal of the north and midlands; about 1900, it tended to huddle round the ports, as near as might be to foreign markets; and now, in the mid-twentieth century, it clusters round the home market of the overgrown urban agglomerations of the midlands and south-east.

Such movement would hardly have been possible if public services had not been available in all these different parts of the country. They have added to the mobility of industries as of goods and power and labour. They have given the business man greater freedom of choice in the siting of his works. And by this very freedom they have affected the location of industry. It was the canal and the railway that made possible the development of those Midland and Northern coalfields that lay inland away from navigable water. It is the

* Railway amalgamations committee, 1911, xxix [5631], ii, 35.

gas pipe and the electric grid and the motor lorry that have made possible the industrialization of a London that is far from the coalfields. And the grid and motor lorry and motor bus show some signs of breaking down the industrial barrier even between town and country. The railway, it used to be said, neutralized nature's distances : of the public services as a whole it might be said that they have neutralized nature's differences. They have not dictated the location of industry : they have freed it from nature's dictation ; they have set it free to follow the dictates of economic forces or of social choice.

As new public services arise and old ones are extended, the range of choice will no doubt be still further widened. But simultaneously these changing services may well have to face a decline in the number of their users. They have been built up to meet the expanding needs of a rising population ; and now the population is about to fall.

A shrinkage in the demand for a service or two is no new phenomenon. The creditors of the turnpike trusts, the shareholders in the canal companies, and the proprietors of many trans-oceanic cables, have had to cut their losses. This they have usually done under the aegis and superintendence of parliament. And in the cases of canals and cables they usually did it by getting their own declining fortunes hitched on to the rising fortunes of some newer service.

Here may perhaps be found one of the differences between the partial falling-off in demand in the past and the general decline of the future. There may be few rising services on to which to hitch the declining ones.

There might, however, be some that would decline less than others. Waterworks and telephone exchanges, for instance, might pass through a phase when they would be emancipated from the law of diminishing returns. A rising standard of living, if this were to remain possible, might require, for instance, more motor-cars and less trains, more

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aeroplanes and less ships, more electric current and less raw coal. And further specialization and exchange might for a while necessitate more movement of goods rather than less. In services such as mail delivery, which depend mainly on the organization of labour, contraction might be less difficult than in others, such as the railways, whose efficiency depends on the working of a plant of a given size. In services without capitalists, the groans of contraction might be less than in the services where the capitalist remains. His investment would be unlikely to remain safe. Obligations towards him could be honoured only by a depreciation of the currency. The financial stability that we strive after to-day would prove to have been one of the great illusions of the 1920's and '30's. And the autonomy that we have worshipped might yield place to the great god Plan.

CHAPTER X

THE PUBLIC SERVICES AND THE STATE

I. GOVERNMENT WITHOUT POLITICS

THE country with the longest tradition of a two-party system is the country that has gone furthest in taking first one service and then another out of politics. The nation with the oldest tradition of the political responsibility of government to parliament is a nation that has time and again entrusted state services to bodies responsible only legally and in the courts. Here is one of the permanent paradoxes of British constitutional habits.

This is no new paradox. John Stuart Mill, in his 'Political Economy,' deliberately recommended that when public intervention could not be avoided, it should be entrusted to specialist bodies, because only so would it be sure of receiving adequate attention.

Hegel, in his criticism of the great reform bill, complained that England's two-party system sinned against all the principles of his dialectic; for the more bitterly these two aristocratic parties fought, the more they were alike. It is because of this similarity that they have made a practice of leaving so many important aspects of English political life outside party politics. The similarity in education, in attitude of mind and in standards of behaviour, that had made it possible for two parties to co-exist in peace, has also made possible the co-operation of each in turn with a wide variety of autonomous institutions. The underlying unity of British life is social, not political. It depends on a community of feeling rather than on the mechanical operation of any principle of sovereign authority or parliamentary responsibility.

It is perhaps one of the characteristics of a constitutional government that it is capable of constituting some new and subordinate authority, and then trusting that authority to carry on without further intervention by government itself, in much the same way that the god of the eighteenth-century deists retired gracefully into the background when his six days' labours of creation were over.

Of all the types of commission that have been constituted by British parliamentary governments, one only has proved an unrepeatable failure. That one belonged to the social and not the public services. It was the statutory poor-law commission of 1834. And its failure was as a subordinate legislature whose strength and courage proved no greater than those of the parliament that had delegated to it its law-making powers rather than court unpopularity by doing its duty itself.

Four other types of autonomous body commissioned by the government with the consent of parliament have proved comparatively successful.

One of these is the commission entrusted with the administration of certain public resources. The oldest of this type are Pitt's commissioners for the reduction of the national debt and—of importance for local harbours and roads—Liverpool's public works loans commissioners. The traditional explanation of their establishment throws much light on their position as an inevitable by-product of party government. 'The public works loan fund commission,' said a royal commission in 1859, 'had its origin in the year 1817, at a period of unexampled distress. On every former occasion when grants were proposed to parliament for any local purpose, a special committee had previously been appointed for the purpose of investigating the case, and had submitted to the house a specific plan to provide for it, with a view effectually to guard against any misappropriation of the public money. A board of works, however, having been organized quite unconnected with the government, all apprehensions of undue influences

were done away ; and the proceedings of the board, during a period of more than thirty years, have proved that it has not been made an engine for party purposes.* The ecclesiastical commission for administering the lands of the established church was actually an agreed measure of reform, or of shelving reform, on which the liberal Russell and the conservative Peel were in accord. The development commission and forestry commission set up just before and just after the war, the live-stock commission for administering the beef subsidy, and the coal commission for administering mineral rights, are in the same tradition, the importance of which is not confined to the public services.

Next come commissions for various kinds of quasi-judicial work. The demand for these arose when some tribunal was required before which aggrieved users could bring cases of railway companies refusing them reasonable facilities or reasonable freight charges. 'This is not a code which the judges can interpret,' said Lord Chief Justice Campbell on Cardwell's traffic bill in 1854 : 'it leaves them altogether to exercise their discretion as to what they may deem reasonable. . . . The judges, and myself among them, feel themselves incompetent to decide on these matters. I have spent a great part of my life studying the laws of my country ; but I confess I am wholly unacquainted with railway management, as well as the transit of goods by boats ; I know not how to determine what is a reasonable fare, what is undue delay, or within what time trucks and boats should be returned. . . . You should have a lay tribunal for the decision of questions of the nature contemplated by the bill, and not one composed of the judges.'† The only judge that thought his court capable of making these essentially administrative decisions was the then chief justice of common pleas.‡ And he proved

* Harbours of refuge commission, 1859, x. [2474]. i. p. xix.

† H. of L., 30 May 1854.

‡ C. Fortescue, on Jervis, in H. of C., 10 February 1873.

wrong. When a separate railway commission was set up in 1873, the first commissionership was given to a non-lawyer who stressed the fact that 'a question of reasonableness is not a question of law,'; fairness and practicability were 'not a question of law, but a question of fact.'* In 1888 this experiment gave way to the railway and canal commission, under the presidency of a judge of the English high court or the Scottish court of session as the case might be; and the distinction was accepted that this tribunal's decisions were final on questions of fact, but subject to appeal to the new court of appeal on questions of law. Railway and canal amalgamations were subjected to proof before this tribunal that they were in the interest of users. From 1930 to 1938, the compulsory amalgamation of mines was inappropriately brought within the jurisdiction of this same railway and canal commission, and similarly subjected to the impossible proof that it would result in lower prices. And from 1894 to 1921 all increases in railway freights had to be similarly justified before them on the ground of increased costs. In all these cases, however, it was particular questions of fact that came up before the railway and canal commission, as and when they arose, which was not often. For the regular sanctioning of revisions of railway rates as a matter of course, the annual, quarterly and monthly sittings of the ministry of transport's railway rates tribunal were instituted in 1921. The licensing of public service vehicles by area traffic commissioners since 1930, and of lorries by the chairman of the area traffic commissioners since 1933, might easily degenerate into a matter of the most arbitrary administrative discretion; but attempts have been made to give it a judicial procedure and spirit by erecting road appeal tribunals. The electricity commission has taken the place of a government department, as the sanctioning authority for every particular scheme of electrical development; it has thus

* Sir Frederick Peel, before Fortescue select committee, 1872, XIII. (364). Q. 2969.

developed into a novel blend of planning and adjudicating authority ; and the complaint that it is judge in its own cause has attracted less attention than would have happened had this same combination of powers been left in the hands of a political department. Graham's coal mines reorganization commission of 1930-38, on the other hand, whose essential powers of adjudication were transferred to the railway and canal commission, was left powerless as a planning agency. Such are the most important British experiments in regulation by special administrative tribunals. And it is the public services that have led to their creation and given them their scope.

The merely supervisory commission, with powers only of inquiry, conciliation and publicity, has been thought better suited to American than to British conditions. 'The board of commissioners were set up as a sort of lens by means of which the otherwise scattered rays of public opinion could be concentrated on a focus and brought to bear on a given point,' said the first chairman of the state railway commission set up in Massachusetts in 1869.* But neither state railway commissions nor city rapid-transit commissions found favour here. And the only feeble imitation of them has been the food council.

Another type of commission has attracted more attention here from the mid-1920's. This is the monopolistic operating board, of which the central electricity board and the London transport board are the chief and, with the possible exception of the broadcasting corporation, the only examples. And it is interesting that in both cases, before the establishment of their monopolies, they were preceded by quasi-judicial regulatory commissions of a more common kind. They represented a second step towards co-ordination and the elimination of waste. Their very establishment implied the

* Charles F. Adams, quoted in board of trade evidence before Fortescue joint select committee on railways, 1872.

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inadequacy of such powers as the electricity and metropolitan traffic commissioners had been given.

II. THE PUBLIC OPINION TRIBUNAL

Considerable sections of the public are often far from convinced that they are well served by a public service. No system can be envisaged that would be capable of pleasing every one. But every system has left some opportunities for the ventilation of public opinion, if not for its practical expression in new laws or a change of policy.

The one tribunal before which every public service in Great Britain has had to appear for one hundred years past is the public press. In spite of the advertising power of any rich undertaking—a power that has recently extended even to a trading department of the government such as the post office—the British press has gradually built up so secure a position, with its exceptionally big circulations and abundant advertisements, that it has on the whole felt fairly free to give vent to public criticism. And when dealing with its potential rival, the British Broadcasting Corporation, it has been particularly free in its judgments, without necessarily carrying its readers more than part of the way with it.

Most public services have also been exposed to the very real, though sometimes remote, risk of strong parliamentary criticism on certain occasions. Although this check has been less constant, it has been far more potent; for the majority of statutory undertakings have been financially dependent on parliament, which has become indirectly and ultimately responsible for the conditions under which they are conducted. If they are statutory companies, it is by parliament that their maximum share capital has been authorized, and this limitation has carried with it a limitation of their borrowing powers, so that they have had to go back to parliament when

they have wanted authority for further increasing their capital. If they are statutory public boards, it is again to parliament that they have had to go to get their borrowing powers increased. It is by parliament that the principles have been laid down on which their charges are fixed ; and if the practical application of these principles has led to a popular outcry, it is through a parliamentary select committee that members have most usually investigated the grievances of their constituents.

Practically the only public services that have had to go not to parliament itself but to a government department each time they have wanted to raise more capital have been those under state or municipal ownership and control, every detail of whose management has therefore been subjected to the constant questionings of parliament or of a municipal committee. In this case, and this alone, has there been much chance of critics coming face to face with those responsible for the administration of the service they criticize. The situation in parliament and in a town council have, however, become somewhat different.

The dependence of ministers on a parliamentary majority has made parliament in an exceptional sense the grand inquest of the nation and has extended the efficacy of its criticism beyond state-owned services such as the post office to services such as civil aviation for which a government department has assumed unusual financial responsibility. The normal method of meeting such criticism has therefore been for the government itself to set up a departmental committee, though parliamentary opinion has insisted that this should not be composed of departmental officials who would thus be enabled to cross-examine their critics without themselves being cross-examined. Less than a hundred years ago, it would still have been feasible for the Commons themselves to appoint a select committee to investigate such a service ; but although this might still be justified as the exercise of the

Commons' traditional control over finance, it might also be taken as a near approximation to a vote of censure. Regular annual criticism of these few services has also been assured through the obligation on these services to have their accounts audited by the Commons' auditor-and-comptroller-general and then microscopically dissected by the public accounts committee in fulfilling its legal duty of 'the examination of the accounts showing the appropriation of the sums granted by parliament to meet the public expenditure.' As a matter of custom, this parliamentary audit has been extended to the commercial accounts of the post office, although these have no statutory significance. And under a series of statutes since 1911 this audit has also been extended to most autonomous social insurance and similar self-balancing funds, although most of their resources have come from other sources than parliamentary appropriations. The suggestion that autonomous state-appointed bodies such as the Broadcasting Corporation should also have to submit their accounts to parliament for audit has not been acted upon. The principle that audit grows out of appropriation has produced a time-lag in the extension of the public audit to the public services as a whole. The public accountability beloved of Mr Morrison has proved a myth.

On most town councils and regional joint authorities no such thing as ministerial responsibility has developed. Where executive powers are wielded by committees that have no wholesome fear of losing their majority, criticism is apt to be moved from inside the council chamber to outside. Municipal undertakings have not necessarily been better run than those in private hands. Municipal water has not always been purer than that purveyed by companies. Where elections are not closely contested, the safe seats of town councillors have been apt to make them more immune from public criticism than the profit-making undertakings on which they themselves have rightly regarded it as one of their public

duties to keep a close watch. An additional focus for public opinion has therefore been devised in the occasional public inquiry tribunal, appointed by the minister of health, in order to ventilate local feeling and establish the facts about any piece of administration on which opinion has been strongly aroused.

The chief novelty of recent years is of course the monopolistic but autonomous operating board. Press criticism of such a board is assured. Parliamentary criticism, in the absence of appropriation, and therefore of audit, has been practically restricted to a very rare and occasional academic debate, unless application has been made for some extension of their statutory powers ; and, as most members of these boards hold office for a term of years, and not for life like the judges, parliament has reserved no latent power of dismissing them by resolution. These corporations have to a varying extent endeavoured to study the public demand by statistical methods of varying degrees of crudity, and by appointing public relations officers to temper as well as to elicit criticism. Some substitute for a regular organ of criticism, such as parliament, has been found in regional advisory committees such as those that have been erected in most electricity districts and in the London traffic area ; apart from representing the views of local authorities and other representative bodies, they would not seem to have proved remarkably good conductors of public opinion. And the least publicly-controlled of all these monopolies, the London passenger transport board, has made a show of taking its clients into its confidence by the issue of a cheap and exceptionally informative annual report.

By the very multiplicity, however, of the ways by which public opinion has hitherto been able to find expression in Great Britain, there has existed some probability that the opinion of organized sections of the public will be heard and will result in a not too intolerable service, whether by

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statutory companies or state departments or municipal committees or statutory boards, or whether by making each one of these forms fear transformation into one of the others.

III. REGIONALISM

Passenger-transport and water-supply, gas and electricity, fire-fighting and cleansing, have all originated as local services. It is from the town that they have spread outwards, in so far as they have spread at all. It is the urban municipality that has been concerned with them, in so far as they have come within the ambit of English local self-government. Yet no more unsuitable unit for their organization could well have been imagined than an English town.

Even the walled towns of medieval England had scant respect for their walls. They straggled out into the countryside, with seldom any sudden break between town and country. Our towns have never known where to stop. As their population grew in the nineteenth and twentieth centuries, it flooded out across every local government boundary. Movements of boundaries have seldom kept pace with movements of population. Every municipal unit is a survival from the generation before. And the adaptation to contemporary needs of local government areas that are continually becoming antiquated involves a recurrent series of surgical operations ill-adapted to such expensive services as those needed by an urban populace.

An English town has also tended always to be an unfashionable oasis in the desert of county life. As soon as he has made his fortune, the townsman has built a house in the country. The town continually recruits its lower social strata from the country, and the country its upper social levels from the town. Town and country, borough and county have always been complementary in their antithesis. The antithesis was perhaps

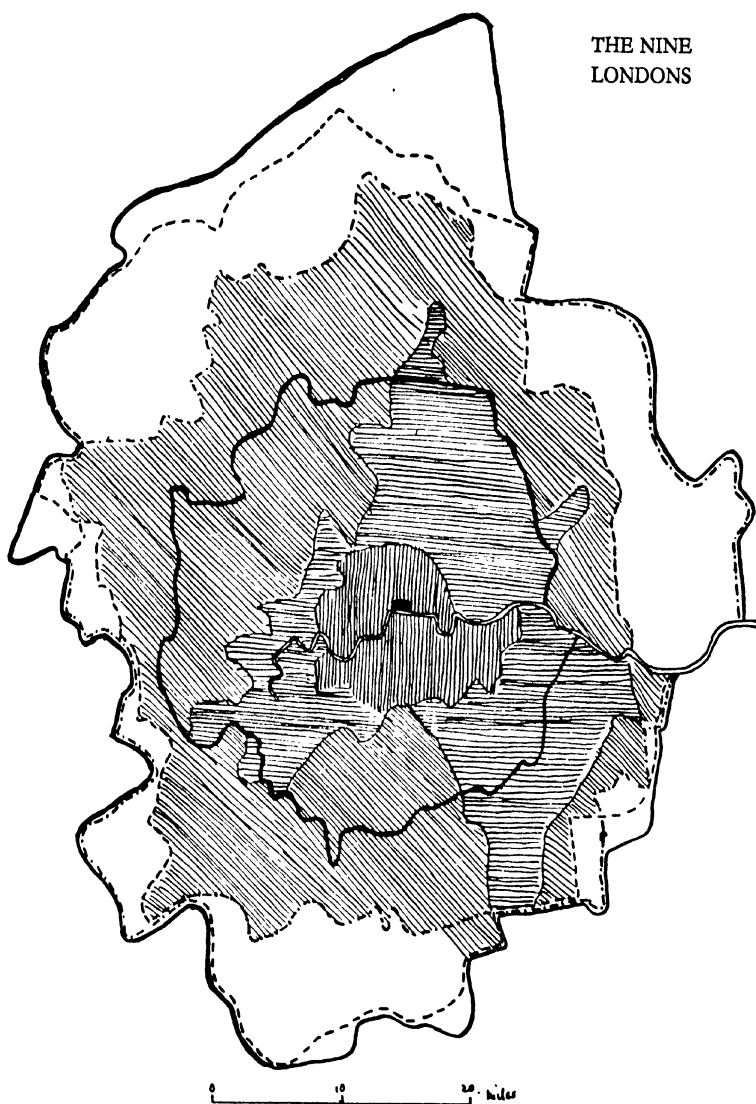
most marked when nonconformity frowned on anglicanism and democracy battled with squirearchy in the nineteenth century. It was then that the tendency set in towards the county-borough status that shuts it off from the county into which it is overflowing all the time. The county might have made a more suitable unit for many a service : but elective county councils were not established until after most of the services had grown up. And now that the motor car is making the two opposites more complementary than ever before, it may well be too late and too expensive to go back on what has long ago been done.

Being geographically so unsuitable a unit, and socially, in most ages, so undistinguished and unfashionable, the municipal authority has been left with only such limited liberty as parliament has thought safe to vouchsafe to it. It has not been free to organize any public service without first getting permissive powers from parliament. And it was only in the age of Joseph Chamberlain that a wide range of such permissive powers was freely given in general acts of parliament.

The London agglomeration presented all the familiar weaknesses of English municipal life with the most grotesque exaggeration. Nobody has ever been able to guess at what limits this monstrosity will cease to grow. In 1855 a number of parochial vestries outside the city were federated into a metropolitan board of works for the joint disposal of their sewage, the joint improvement of their central traffic arteries, and the joint organization of fire-fighting. Its boundaries became those of the administrative county of London in 1888. But hardly had a directly-elected London county council come into being, when it became clear that the metropolis was already overflowing these too-narrow boundaries. It has been the fate of the London county council to represent a declining proportion of the population of Greater London. And it has seemed well-nigh impossible to conjure up a bigger regional body and endow it with popular prestige,

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THE NINE LONDONS



THE NINE LONDONS



The Port of London : 136 miles of tidal river, under the Port of London Authority, 1908.



The City of London : 1 square mile, under its own Corporation.



The Administrative County of London : 120 square miles, united for main drainage, 1855.



'Water London' : 350 square miles, under the Metropolitan Water Board, 1902.



'Greater London' : 600 square miles, the Metropolitan Police District, within 15 miles of Charing Cross, under the Home Office, 1829.



'Transport London' : 1600 square miles, the Special Area under the monopoly of the London Passenger Transport Board, 1933.



London Passenger Transport Area : 2000 square miles, in which the London Passenger Transport Board has rights and duties subject to the Metropolitan Traffic Commissioner, 1933.



London Traffic Area : Supervised by the London and Home Counties Traffic Advisory Committee, 1924.



Metropolitan Traffic Area : 3000 square miles under the licensing authority of the Metropolitan Traffic Commissioner, 1933.

Some details may be found in Bacon's *Atlas of London*, and others in Stanford's map of the Metropolitan Traffic Area.

corporate feeling, devoted leaders, and tasks to do that cannot be equally well done in some less cumbersome way.

Joint authorities might have been resorted to as the most democratic way of overcoming the limitations of English municipalities. Yet they have not proved popular. They have always been *ad hoc*. Their only marked success has been in a social service—the voluntary federation of boards of guardians to form district school-boards in early Victorian days—when a minority of keen and leisured enthusiasts got themselves elected and made them superior to the bodies from which they had sprung. They have commonly been suspected of being manned by second-rate men, often with limited authority, and surrounded with limited publicity, so that they multiply the defects of inferior authorities. ‘All joint and no authority,’ Mr Morrison has called them. The metropolitan board of works, which was of this nature, was abolished for this very reason, though a very similar metropolitan water board was called into existence a few years later. Joint water authorities and joint electricity authorities have here and there made their appearance. And while this co-operation has often been desired and encouraged, it has seldom been prescribed by parliament outside the London area, with the one recent exception of the catchment boards. It has been assumed that it is unlikely to be successful unless it is voluntary. And of recent years it has been assumed that such joint authorities are often better suited for advisory or consultative than for administrative duties.

In such an England, nothing could be more natural than that many services should have come to be discharged not by municipalities, either singly or conjointly, but by profit-making companies in the nineteenth and autonomous corporations in the twentieth century. These boards and commissions of our own day are, from this point of view, doubly interesting. For one thing, they tend to regulate electricity

or traffic or broadcasting, much as postal services and employment exchanges and unemployment assistance are also organized, on a regional basis that knows little or nothing of counties and county boroughs. The 'provinces of England' that were a romantic dream thirty years ago have become a practical reality to-day. For the first time since the end of the house of Wessex, England is carved out into jarldoms. For another thing, the authorities that are being constituted in each of these regions, do not spring spontaneously from the soil of those regions according to the traditional principles of English local self-government. Instead, they are appointed from the centre. The area traffic commissioners are even a Dutch-like combination of a centrally-paid full-time official with local unpaid coadjutors. Such regionalism as is appearing in Great Britain is a territorial devolution of bureaucratic authority, rather than a higher product of local self-government. It is what the French mean by autonomy rather than what the English mean by home rule.

This undemocratic departure is but an aspect of the essentially undemocratic nature of modern life. The citizen of a great town and an industrial country no longer controls his own destiny. The self-government that means the complete mastery of his own fate is to him an absolute impossibility. In the age of specialization, he depends for his very existence on others. And none can be more dependent on impersonal forces than the inhabitants of one of the greatest ports of the world.

IV. PUBLIC SERVICES AND DEFENCE SERVICES

To the nineteenth-century Englishman, few things seemed more alien to one another than public services and defence services. While the one seemed reproductive, the other seemed destructive. While the one might be expected to pay its way or even make a profit, the other was regarded as a dead

loss except in those rare instances where the development of trade and investment in some remote corner of the earth might otherwise be impeded. It was not here as on the continent, where Napoleon's roads were to open up a passage through other countries, and Guizot's railways to minister to the defence of the frontiers of France. Beside these great public works, designed largely from military motives, Britons could set only a few steam packets subsidized by the admiralty as auxiliary cruisers, a few telegraphic cables subsidized for purposes of imperial communications, and a few naval harbours available also for other shipping.

The heightened national and imperial rivalries of the twentieth century have wrought a great change in the twenty years since 1918.

The whole development of radiocommunications, both through Rugby and through the imperial beams, has been governed by strategic considerations. The provision of alternative means of sending messages for the more effective defence of the empire has been its prime aim. Making it pay has been a secondary consideration.

Civil aviation would seem to have been developed mainly as a means of building up a manufacturing industry on which the defence services might later have prior claim, and partly also to provide a potential reserve of aircraftsmen. Without subsidies, capital might never have been attracted to this service.

The planting of state forests was advocated by the Acland sub-committee of the reconstruction committee in 1918, in the hope that the state might have in reserve enough standing timber to meet a three-year emergency and thus set free as much shipping tonnage as was needed for the importation of grain. Instead therefore of limiting its plantations to land that was no good for other forms of agriculture, it would have every reason for buying goodish land which would yield a serviceable timber crop at the earliest possible date. And it

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would be untrue to its patriotic purpose if it reared slow-growing native hardwoods instead of planting alien conifers.

In all these ways, the natural course of economic development has been deflected into channels preferred by the state from motives of imperial and national defence. Other services of more productive peace-time use have also received a stimulus from war-time needs.

A better public supply of electricity was called for when munition factories sprang up everywhere in the last war. Among its other virtues, electricity is said to have diminished the vulnerability of the state by providing a means of power-transmission that is less easily hit than a railway-line used by coal-trucks, a form of fuel that takes fire less easily than gas, and, through the grid, an alternative supply in case of breakdown, although against this must be set the vulnerability of the new waterside super-power stations and the impracticability in war-time of making use of the tideways upon which some of the biggest have been built.

Industrial and scientific research was similarly stimulated by the last war.

In ways such as these, the public services have been improved, in the hope that what makes for efficiency in peace may make also for victorious defence in war.

V. PUBLIC SERVICES AND SOCIAL SERVICES

The public and the social services are two closely related, and in many ways complementary, aspects of this phase of social evolution, when our Western humanity has cut itself off from the self-sufficiency of the village community.

The connection between the public and the social services is clear. It has shown itself most frequently in the relation between public works and unemployment. One hundred years ago, the self-same George Nicholls would become parish surveyor and parish overseer, canal-company director and

poor-law commissioner, just as to-day the same Mr and Mrs Webb have written the history of the poor-law and of the king's highway. Much of the harbour-making of the nineteenth and the road-making of the twentieth centuries has been deliberate employment-making. Railway work contributed at least as much as the new poor-law of 1834 towards the lessening of rural pauperism, although the heavy rates paid by the railway companies in many a union removed the guardians' chief motive for experiments in thrift. The very scale of relief has had to be jacked up to meet the more expensive standard of living that is implied by the rise of democratic public services. And housing and transport are inseparably connected.

Nor is it only that specific public and social services dovetail in ways such as these. The very evolution of the two sets of services has taken them through similar phases.

In both alike, the early- and mid-nineteenth century was an age of local initiative, mainly voluntary. Just as local people floated gas and railway companies, so they organized church schools and provident dispensaries and improvident charities and orphanages and friendly societies. The only difference was that the public-service undertakings looked for the profits of monopoly, while the philanthropic agencies did not, and that therefore parliament restricted most public services to undertakers that got statutory permission, whereas all comers were welcome who held out some hope of keeping the social services off the rates.

In both alike, the late-nineteenth century was an age of municipal experiment. Just as municipalities bought up electricity and tramway and water undertakings, so they experimented in slum clearance and rehousing, while quasi-municipalities—the school-boards—filled in some educational gaps by providing board-schools. The chief difference was that the public services were expected to bring relief to the

rates while the social services could be relied upon to cost more than they brought in.

And in both alike our own age has seen the cult of financial autonomy on a national scale. Just as a central electricity board and a broadcasting corporation have arisen, so have the problems of unemployment pay and sick pay and old-age pensions been transferred as far as possible to self-balancing national insurance funds. And again the difference has been that most public services have been kept clear of subsidy, whereas the autonomous insurance funds depend on one form or another of state contribution.

Yet in spite of so much similarity between the public and the social services, there are some very significant historical differences between them. They look less like twins than older and younger sisters.

In so far as they have furnished election issues, the social services have now taken the place occupied by the public services during the age of nineteenth-century municipalization.

The twentieth century spends out of income on the social services: the nineteenth invested its capital in the public services.

To-day—and this is perhaps the crux of the difference—we aim at raising the standard of living by supplementing the wages of the economic man with the rights of the citizen of a nation state: then, our ancestors tried to create circumstances favourable to the earning of better wages and the spending of them to the best advantage. In both ages alike, men of goodwill have striven to help the wage-earner stand more firmly on his feet and hold his head a little higher; but in the atmosphere of the Victorian age the public services naturally loomed larger.

To-day we pour out our millions on the social services, without asking any visible return, while we expect our public services to be planned for the financial soundness that pays its way. Yesterday, the Victorians were not too dismayed if the

investor had bad luck and lost on turnpikes or canals or railways, or if the taxpayer was overcharged at the purchase of telegraphs or waterworks ; for what mattered was that these services facilitated trade and alimented the economic life of the world. If they paid, so much the better ; but whether they paid or not, they added to the material wealth both of the nation and its individual members.

Each century has thus struck its own characteristic note. The policy of the nineteenth century had the obvious and grave defects of its very real merits. It tended to increase the material comforts of men and women only in so far as they played some well-defined part in the economic system, as recipients of profits or rent or wages. It did little to ensure that the material blessings of this world should make their way to those who were placed outside the economic system by the play of economic or natural forces through lack of capital conjoined with inability to labour.

Without the material progress facilitated by the public services, of which the greatest were the work of the nineteenth century, the social services of to-day would be unthinkable. Without the social services of tomorrow, the ill-distributed material comfort of the nineteenth century would be intolerable.

APPENDIX

SOME HISTORICAL BOOKS

THIS historical survey owes most to the voluminous reports of royal commissions, nineteenth-century parliamentary committees, and twentieth-century departmental committees. Most of these reports have already been mentioned in the text ; but those that contain useful historical surveys are also listed below.

It should be mentioned, and is symptomatic, that reports of publicly appointed statutory corporations and even of departmental committees are not always formally presented to parliament nowadays by command of his Majesty, in spite of their important influence on the shaping of public policy ; they are therefore neither numbered nor bound in the official series of parliamentary papers available to the public on the open shelves of our great libraries.

THE PUBLIC SERVICES IN GENERAL

CLIFFORD, F. *History of Private Bill Legislation*, 1885.

DARWIN, L. *Municipal Trade*, 1903.

DIMOCK, M. E. *British Public Utilities*, 1933.

KNOOP, D. *Principles and Methods of Municipal Trading*, 1912.

LASKI, H. J., etc. *Century of Municipal Progress*, 1935.

MEYER, H. R. *Municipal Ownership in Great Britain*, 1906 (New York).

O'BRIEN, T. H. *British Experiments in Public Ownership and Control*, 1937.

ROBSON, W. A., etc. *Public Enterprise*, 1937.

WEBB, S. & B. *Statutory Authorities*, 1922.

Also the *Stock Exchange Year-book*, the *Municipal Year-book*, and professional periodicals.

THE PUBLIC SERVICES

PARTICULAR SERVICES

- BROODBANK, J. D. *History of the Port of London*, 1921.
CADBURY, G. etc. *Canals*, 1929.
(DEVONSHIRE). *Royal Commission on Railways*, 1867.
FAYLE, C. E. *Short History of the World's Shipping Industry*, 1933.
(FORTESCUE). *Joint Select Committee on Railway Amalgamations*, 1872.
GARNETT, W. *Water Supply*, 1922.
GORDON, L. *Port of London Authority*, 1937 (in ROBSON).
JACKMAN, W. T. *Development of Transportation in Modern England*, 1916.
LEWIN, H. G. *Early British Railways*, 1925 ; *Railway Mania*, 1936.
MORRISON, E. *Socialization of Transport*, 1933.
MURRAY, E. *Post Office*, 1927.
POST OFFICE. *Historical Survey*, 1911.
PRATT, E. A. *History of Inland Transport*, 1912.
QUIGLEY, H. *Electrical Power and National Progress*, 1925.
SHERRINGTON, C. E. R. *One Hundred Years of Inland Transport*, 1934.
SMILES, S. *Lives of the Engineers*, 1861.
SMITH, H. L. *New Survey of London Life and Labour*, 1930.
SOMERFIELD, V. *London's Buses*, 1933.
WEBB, S. & B. *Story of the King's Highway*, 1913.
WILLAN, T. S. *English Waterways*, 1936.
Also works on transport economics by Fenelon, Kirkaldy, Sherrington, etc.

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